

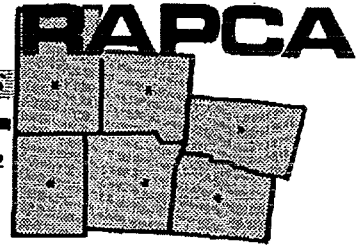
**Response by Pharmacia LLC and Monsanto Company
to USEPA's Request for Information dated January 16, 2015**

**Attachment B
Responsive Documents**



CLARK, DARKE, GREENE, MIAMI, MONTGOMERY & PREBLE COUNTIES

MAIN OFFICE: 451 W. THIRD STREET, DAYTON, OHIO 45402



January 13, 1977

Thomas Beal
Safety Inspector
Monsanto Research Corporation
1315 Nicholas Road
Dayton, Ohio 45418

Dear Mr. Beal:

Per our conversation of January 11, 1977, a permit to burn miscellaneous chemicals, identified in a November 24, 1976 open burning permit application is enclosed. This permit will be valid for a period of one week, which will be determined at a later date. Should this agency receive any complaints concerning the proposed burning, alternative disposal methods must be utilized.

It should be noted that we view this permit for burning miscellaneous chemicals as a "one time" incident, not an approval of burning this material in the future. Alternative methods should be considered for future disposal.

If you have any questions concerning this matter, feel free to contact this writer.

Sincerely,

Bruno E. Maier
Air Pollution Control Specialist
Abatement Unit

BEM/sel

Enclosure

SPRINGFIELD-CLARK COUNTY
HEALTH DEPARTMENT
301 S. Fountain Street
Springfield, Ohio 45506
325-7097

GREENE COUNTY
HEALTH DEPARTMENT
101 E. Church Street
Xenia, Ohio 45385
426-4131 372-4461

TROY-MIAMI COUNTY
HEALTH DEPARTMENT
1400 W. Wayne Avenue
Troy, Ohio 45373
335-5655

MONTGOMERY COUNTY
HEALTH DEPARTMENT
451 W. Third Street
Dayton, Ohio 45402
225-4435

MONS001870



REGIONAL AIR POLLUTION CONTROL AGENCY
451 W. Third St. - P. O. Box 972
Dayton, Ohio 45422
225-4435

OPEN BURNING PERMIT

Name Monsanto Research Corporation
Address 1515 Nicholas Road Phone 268-3411
Location of Burning East side of plant Township _____

In response to your application, the above site and premises have been inspected. Permission is hereby granted to burn _____ originating on the premises, subject to the following:

This permit will be revoked automatically upon your failure to follow the indicated stipulations.

- ☐ 1. Burn only in small piles, not larger than 5' x 5' x 5'.
- ☐ 2. Burning hours are 10:00 a.m. to 4:00 p.m.
- ☐ 3. Maintain all fires in relatively nuisance-free fashion.
- ☒ 4. Notify the DAYTON fire department just prior to burning.
- ☐ 5. Only clean, dry wood may be burned. *Jim Gross OK'd to burn 8-28-79*
- ☒ 6. Permit is valid for 2 days, beginning August 29, 1979 and ending August 30, 1979, except Sunday and holidays.
- ☐ 7. Remove asphalt shingles, trash, garbage, tires, furniture, mattresses, and all other excessive smoke-producing materials.
- ☒ 8. Notify this office prior to burning, as permit may be temporarily terminated in the event of an air stagnation warning. (SEE #12)
- ☒ 9. Permit must be on-site during burning.
- ☒ 10. Fire extinguishing materials must be available at all times burning is to occur; fires must be attended at all times.
- ☐ 11. Burn only when wind is from _____.
- ☒ 12. Please call the day before burning. This will allow me to make everyone aware of the training.

8/21/79
Date

James W. Gross
Enforcing Agent

STATE OF OHIO

HAZARDOUS WASTE FACILITY APPROVAL BOARD

In the Matter of:

Monsanto Research Corporation
P.O. Box 8 Station B
Dayton, Ohio 45407

Applicant/Permittee

The operator of the below-
referenced hazardous waste
facility

Monsanto Research Corporation
1515 Nicholas Road
Dayton, Ohio 45407

Facility

I CERTIFY THIS COPY TO BE A TRUE AND
ACCURATE COPY OF THE PERMIT AS
AS FILED IN THE RECORDS OF THE
HAZARDOUS WASTE FACILITY APPROVAL BOARD

BY CK DATE 12/29/81

Permit No. 05-57-0433

HAZARADOUS WASTE FACILITY
APPROVAL BOARD

DEC 28 1981

ENTERED BOARD'S JOURNAL

Pursuant to Section 3734.05(D) of the Revised Code, The
Hazardous Waste Facility Approval Board (Board) makes the
following Findings and Conclusions and issues a Hazardous
Waste Facility Installation and Operation Permit (Permit)

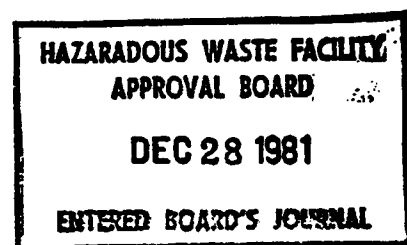
FINDINGS AND CONCLUSIONS

1. The Applicant has submitted to the Board a completed permit application, stating the facility was in operation immediately prior to October 9, 1980, and has paid the required permit fee.
2. The Ohio Environmental Protection Agency (Agency) and/or the United States Environmental Protection Agency has inspected the facility and has prepared an Interim Status Standards Survey (survey).
3. All public comments timely received have been reviewed, evaluated and considered by the Board and the Agency for their relevancy and materiality.
4. The Agency has reviewed and considered the information on the permit application, the results of the survey, the public comments, and other pertinent material and has concluded that the facility was in substantial compliance, as determined by the Director of Environmental Protection, with applicable statutes and rules in effect immediately prior to October 9, 1980.

5. The Agency has informed the Applicant of the requirements of applicable hazardous waste rules of which it was not in compliance.
6. The Agency has recommended to the Board that a permit be issued to the facility.
7. Review and consideration of the information on the permit application, the results of the survey, the public comments, recommendations and comments by the Agency, and other pertinent material regarding the Applicant and the facility is sufficient to determine whether the facility meets the requirements for permit issuance set forth in Section 3734.05(D) of the Revised Code.
8. The staff of the Board has reviewed and considered the information on the permit application, the results of the survey, the public comments, the recommendation and comments by the Agency, and other pertinent material regarding the Applicant and the facility and has recommended to the Board that a permit be issued.
9. Pursuant to Resolution No. 176-81, passed September 15, 1981, the Board found that the facility:
 - a. Was in operation immediately prior to October 9, 1980,
 - b. Was in substantial compliance, as determined by the Director of Environmental Protection, with applicable statutes and rules in effect immediately prior to October 9, 1980,
 - c. Submitted a completed permit application, and
 - d. Has demonstrated to the Board that its operation after October 9, 1980 will comply with applicable performance standards adopted by the Director of Environmental Protection pursuant to division (D) of Section 3734.12 of the Revised Code.
10. Pursuant to such Resolution, the Board resolved and approved that a permit be issued with such standard terms and conditions set forth in the document entitled "Terms and Conditions" attached to the Resolution and such special terms and conditions as were approved by the Board.
11. The terms and conditions referenced in Finding Number 10 above, are attached hereto and incorporated herein.
12. Resolution No. 21-81, passed on August 26, 1981 and entered into the Journal of the Board on September 1, 1981, authorizes the Coordinator of the Board to:

I CERTIFY THIS COPY TO BE A TRUE AND
ACCURATE COPY OF THE OFFICIAL DOCUMENT
AS FILED IN THE RECORDS OF THE OHIO
HAZARDOUS WASTE FACILITY APPROVAL BOARD

BY CK DATE 12/29/81



MONS01253

- a. Authorize the staff of the Board to issue to the facilities the Hazardous Waste Facility Installation and Operation Permits approved for issuance by resolution of the Board, and
- b. Have signing authority indicating that such action has been approved by the Board.

NOW THEREFORE, A HAZARDOUS WASTE FACILITY INSTALLATION AND OPERATION PERMIT IS ISSUED TO THE Applicant for the facility, subject to the Terms and Conditions attached hereto and incorporated herein.

FOR THE BOARD, BY
ORDER OF THE BOARD

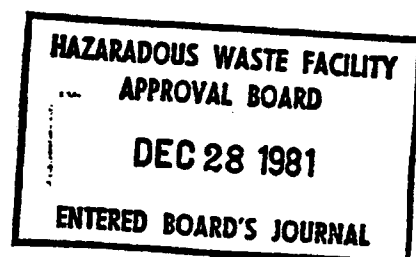
Peggy J. Vince December 27, 1981

Entered into the Journal of the Board on Dec. 28 __, 1981 by

Madeline Samson/sec.

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ACCURATE COPY OF THE OFFICIAL DOCUMENT
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HAZARDOUS WASTE FACILITY APPROVAL BOARD

BY ck DATE 12/29/81



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(Fill-in areas are spaced for elite type, i.e., 12 characters/inch).

81-HW-0433

Form Approved OMB No. 158-R0175

FORM 1 GENERAL		U.S. ENVIRONMENTAL PROTECTION AGENCY GENERAL INFORMATION (Consolidated Permits Program) (Read the "General Instructions" before starting.)		EPA I.D. NUMBER FOH D 004855292	
I. EPA I.D. NUMBER		<p>I CERTIFY THIS COPY TO BE A TRUE AND ACCURATE COPY OF THE ORIGINAL DOCUMENT AS IT APPEARS.</p> <p>PLEASE PLACE LABEL IN THIS SPACE</p> <p>HAZARDOUS WASTE FACILITY</p> <p>DATE 12/29/81</p>		GENERAL INSTRUCTIONS	
II. FACILITY NAME				<p>If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill-in area below. Also, if any of the preprinted data is absent (the area to the left of the label space lists the information that should appear), please provide it in the proper fill-in areas below. If the label is complete and correct, you need not complete items I, III, V, and VI (except VI-B which must be completed regardless). Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.</p>	
V. FACILITY MAILING ADDRESS					
VI. FACILITY LOCATION					
II. POLLUTANT CHARACTERISTICS					
INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold-faced terms.					
SPECIFIC QUESTIONS		MARK 'X' FOR ATTACHED		SPECIFIC QUESTIONS	
A. Is this facility a publicly owned treatment works which results in a discharge to waters of the U.S.? (FORM 2A)		YES NO ATTACHED		B. Does or will this facility (either existing or proposed) include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to waters of the U.S.? (FORM 2B)	
C. Is this a facility which currently results in discharges to waters of the U.S. other than those described in A or B above? (FORM 2C)		YES NO ATTACHED		D. Is this a proposed facility (other than those described in A or B above) which will result in a discharge to waters of the U.S.? (FORM 2D)	
E. Does or will this facility treat, store, or dispose of hazardous wastes? (FORM 3)		YES NO ATTACHED		F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)	
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		YES NO ATTACHED		H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)	
I. Is this facility a proposed stationary source which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		YES NO ATTACHED		J. Is this facility a proposed stationary source which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)	
III. NAME OF FACILITY					
1 MONSANTO RESEARCH CORPORATION					
IV. FACILITY CONTACT					
A. NAME & TITLE (last, first, & title)				B. PHONE (area code & no.)	
2 HART RICHARD MGR TECH SERVICES				513 246 8134	
V. FACILITY MAILING ADDRESS					
A. STREET OR P.O. BOX					
3 PO BOX 8 STATION B					
B. CITY OR TOWN					
4 DAYTON					
C. STATE					
OH					
D. ZIP CODE					
45407					
VI. FACILITY LOCATION					
A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER					
5 1515 NICHOLAS ROAD					
B. COUNTY NAME					
MONTGOMERY					
C. CITY OR TOWN					
6 DAYTON					
D. STATE					
OH					
E. ZIP CODE					
45407					
F. COUNTY CODE (if known)					

FORM 1 - ITEM XI

The legal boundaries of our facility are shown in a black dashed line on the topographic map. The location of existing discharge structures covered by permit are indicated as follows:

W-1 NPDES permit for discharge of water to storm sewer that leads to Miami River

A-1 Air permit from Regional Air Pollution Control Agency for discharge from pilot plant (Building No. 20)

Our waste storage area is designated as S.

No fluids are injected into underground wells at this site.

Surface water bodies and the Miami River exist within the area extending one mile beyond our site boundary. All drinking water within one-quarter mile of this site is supplied by the City of Dayton from wells located beyond these points.

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HAZARDOUS WASTE FACILITY APPROVAL BOARD

BY

ck

DATE

12/29/81

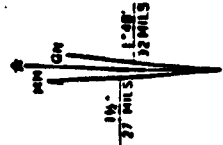
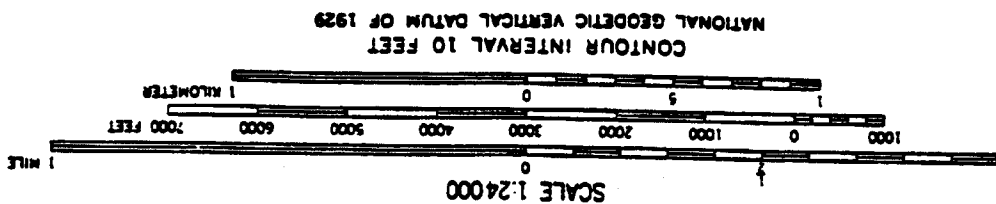
HAZARDOUS WASTE FACILITY
APPROVAL BOARD

DEC 28 1981

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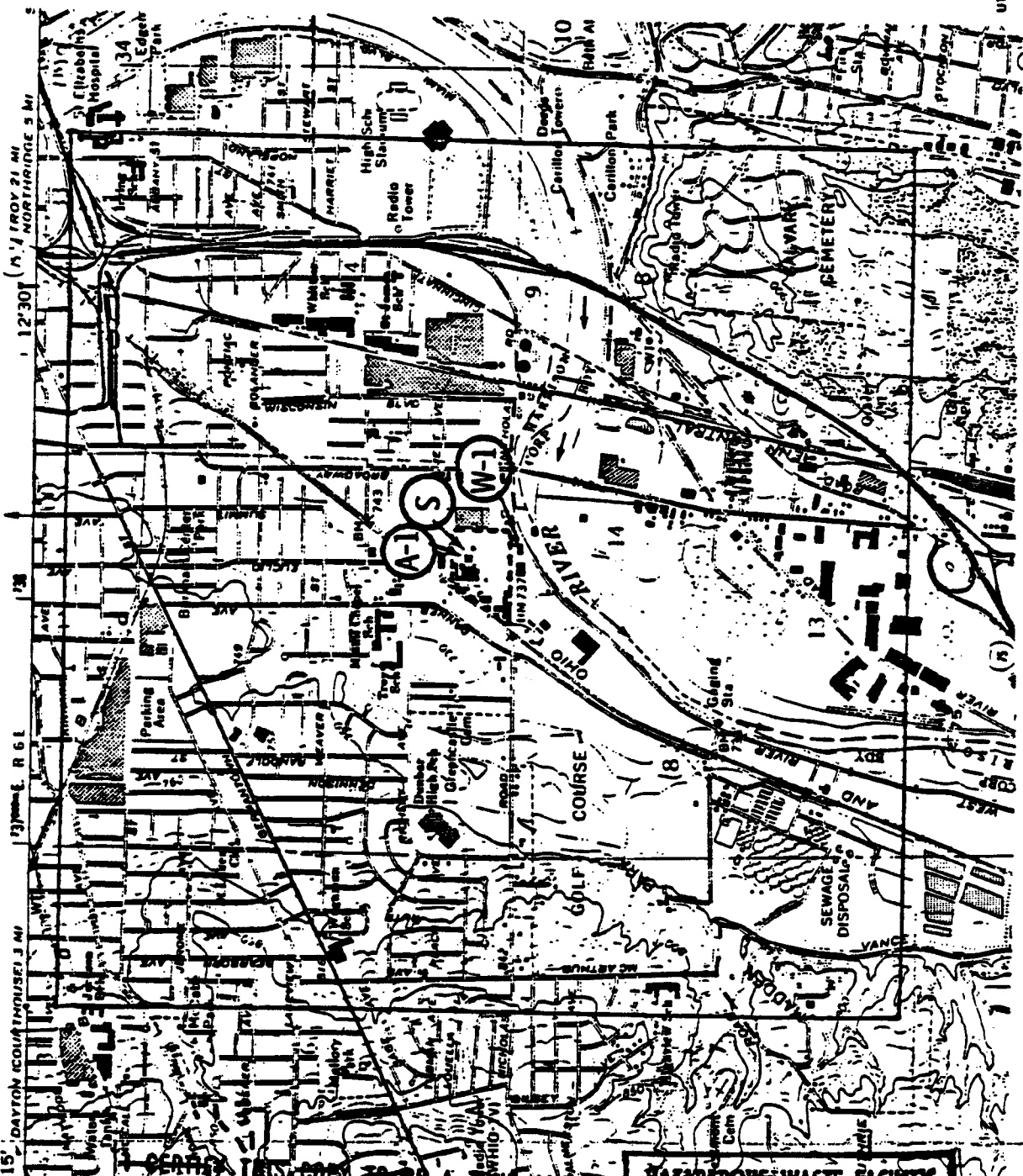
MONS01256

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY



UTM GRID AND 1974 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

0433



39° 45' N
84° 15' W

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ACCURATE COPY OF THE OFFICIAL DOCUMENT
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HAZARDOUS WASTE FACILITY APPROVAL BOARD

BY ck DATE 12/29/81

HAZARDOUS WASTE FACILITY

APPROVAL BOARD

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MON004267

Please print or type in the unshaded areas only
(fill-in areas are spaced for elite type, i.e., 12 characters/inch).

0433

Form Approved OMB No. 158-S80004

FORM 3 RCRA	EPA	U.S. ENVIRONMENTAL PROTECTION AGENCY HAZARDOUS WASTE PERMIT APPLICATION <i>Consolidated Permit Program</i> (This information is required under Section 3005 of RCRA.)	I. EPA I.D. NUMBER	
			F O H D 0 0 4 8 5 5 2 9 2	1

FOR OFFICIAL USE ONLY

APPLICATION APPROVED	DATE RECEIVED (yr., mo., & day)	COMMENTS
APPROVED	DATE RECEIVED	

II. FIRST OR REVISED APPLICATION

Place an "X" in the appropriate box in A or B below (mark one box only) to indicate whether this is the first application you are submitting for your facility or a revised application. If this is your first application and you already know your facility's EPA I.D. Number, or if this is a revised application, enter your facility's EPA I.D. Number in Item I above.

A. FIRST APPLICATION (place an "X" below and provide the appropriate date)

☒ **1. EXISTING FACILITY** (See instructions for definition of "existing" facility. Complete item below.)

FOR EXISTING FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED (use the boxes to the left)

yr. **mo.** **day**
3 6

☐ **2. NEW FACILITY** (Complete item below.)

FOR NEW FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR IS EXPECTED TO BEGIN

yr. **mo.** **day**

B. REVISED APPLICATION (place an "X" below and complete item I above)

☐ **1. FACILITY HAS INTERIM STATUS**

☐ **2. FACILITY HAS A RCRA PERMIT**

III. PROCESSES - CODES AND DESIGN CAPACITIES

A. PROCESS CODE - Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, then describe the process (including its design capacity) in the space provided on the form (Item III-C).

B. PROCESS DESIGN CAPACITY - For each code entered in column A enter the capacity of the process.

1. AMOUNT - Enter the amount.

2. UNIT OF MEASURE - For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PRO- CESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY	PROCESS	PRO- CESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:			Treatment:		
CONTAINER (barrel, drum, etc.)	801	GALLONS OR LITERS	TANK	T01	GALLONS PER DAY OR LITERS PER DAY
TANK	802	GALLONS OR LITERS	SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
WASTE PILE	803	CUBIC YARDS OR CUBIC METERS	INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR
SURFACE IMPOUNDMENT	804	GALLONS OR LITERS			GALLONS PER HOUR OR LITERS PER HOUR
Disposal:			OTHER (Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided: Item III-C.)	T04	GALLONS PER DAY OR LITERS PER DAY
INJECTION WELL	D79	GALLONS OR LITERS			
LANDFILL	D80	ACRE-FEET (the volume that would cover one acre to a depth of one foot) OR HECTARE-METER			
LAND APPLICATION	D81	ACRES OR HECTARES			
OCEAN DISPOSAL	D82	GALLONS PER DAY OR LITERS PER DAY			
SURFACE IMPOUNDMENT	D83	GALLONS OR LITERS			
UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE CODE
GALLONS	G	LITERS PER DAY	V	ACRE-FEET	A
LITERS	L	TONS PER HOUR	D	HECTARE-METER	F
CUBIC YARDS	Y	METRIC TONS PER HOUR	W	ACRES	S
CUBIC METERS	C	GALLONS PER HOUR	E	HECTARES	Q
GALLONS PER DAY	U	LITERS PER HOUR	H		

EXAMPLE FOR COMPLETING ITEM III (shown in line numbers X-1 and X-2 below): A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

LINE NUMBER	A. PRO- CESS CODE (from list above)	B. PROCESS DESIGN CAPACITY		FOR OFFICIAL USE ONLY	LINE NUMBER	A. PRO- CESS CODE (from list above)	B. PROCESS DESIGN CAPACITY		FOR OFFICIAL USE ONLY
		1. AMOUNT (specify)	2. UNIT OF MEASURE (enter code)				1. AMOUNT	2. UNIT OF MEASURE (enter code)	
X-1	S 0 2	600	G		5				
X-2	T 0 3	20	E		6				
1	S 0 2	82,000	G		7				
2	S 0 1	30,000	G		8				
3									
4									

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HAZARDOUS WASTE FACILITY APPROVAL BOARD
DEC. 28 1981
ENTERED BOARD'S JOURNAL

Continued from page 2.

NOTE: Photocopy this page before completing if you have more than 25 wastes to list.

Form Approved OMB No. 158-S80004

0433

EPA I.D. NUMBER (enter from page 1)										FOR OFFICIAL USE ONLY									
W O H D 0 0 4 8 5 5 2 9 2										W DUP									

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

WASTE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES	
				1. PROCESS CODES (enter)	2. PROCESS DESCRIPTION (If a code is not entered in D(1))
1	F 0 0 2	15,000	P	S 0 1 S O 2	
2	D 0 0 1	12,000	P	S 0 1 S O 2	
3	D 0 0 3	50	P	S 0 1 S O 2	
4	F 0 0 3	25,000	P	S 0 1 S O 2	
5	D 0 0 1	1,000	P	S 0 1 S O 2	Includes EP toxicity characteristic
6	F 0 0 5	75,000	P	S 0 1 S O 2	
7	D 0 0 1	100	P	S 0 1 S O 2	
8	D 0 0 2				Included in above
9	D 0 0 3				Included in above
10		14,000	P	S 0 1 S O 2	Periodic lab waste, primarily having D001, D002, D003 and EP toxicity characteristic, and standards for chemical analysis.
11					
12					
13	D 0 0 1	9,000	P	S 0 1 S O 2	
14					
15		Standing from		S O 2	
16					S O 2 are primarily storage tanks for chemicals used
17					in processes, but are, when
18					empty available to store
19					wastes when needed
20					(see letter of July 10, 1981)
21					OK Ball
22					Confirmed S O 2 situation
23					with Mr. Richard Hart on
24					8/15/81 - placed on page 3 of 5
					as per his request: approval
					OK Ball

HAZARDOUS WASTE FACILITY
APPROVAL BOARD

DEC 28 1981

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PAGE 3 OF 5

CONTINUE ON REVERSE

BY CR DATE 12/29/81
(enter "A", "B", "C", etc. behind the "S" to identify photocopied pages)

MONS01259

V. FACILITY DRAWING (see page 4)

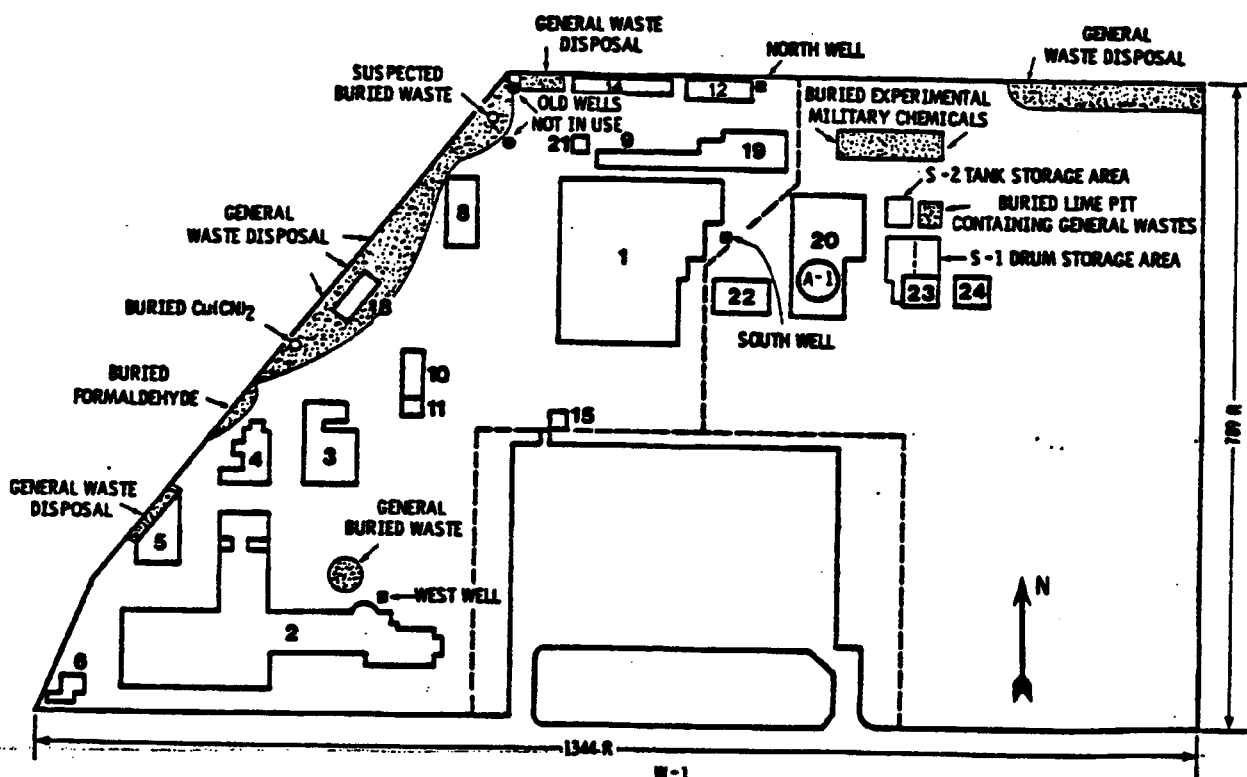
FORM 3

ITEM V

The area that will be used for drum storage of waste during interim status is designated as S-1. Tank storage available for use during interim status is designated S-2.

Past disposal areas shown represent our best estimate of such activity based on the recollection of older employees and some related records. An unconfirmed report indicates that an unknown quantity of waste was buried near the northwest corner of our site in the early 1940's. The exact nature of the material is unknown. It was probably either Polonium 210, which would be decayed by the present time, or waste from a solid rocket fuel project. In 1952, 20 mCi of $Y_2^{90}O_3$ plus contaminated equipment were buried north of Building 8; the material has undergone complete radioactive decay by this time. In the early 1950's, a swamp area existed on the west end of our site. Small quantities of lab chemicals were thrown into the swamp. The area was eventually covered with clay and a garage (Building 18) was built over it. From the early 1940's to the early 1960's, a pit located in the northeast corner of the site was lined with gravel and used for disposal of lab and pilot plant wastes. In the mid-1960's, some chemicals were discarded in a stone bottom pit with limestone on top that was used to neutralize acid wastes. The bottom of the pit was cemented shut in mid-1978.

The north and south wells provide process water; the west well provides water for general experimental (non-drinking) purposes.



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EPA Form 3510-3 (8-80)

PAGE 5 OF 5

HAZARADOUS WASTE FACILITY
APPROVAL BOARD

DEC 28 1981

ENTERED MONS01260

BY

DATE

12/29/81

0433

Monsanto

MONSANTO RESEARCH CORPORATION
Dayton Laboratory
1515 Nicholas Road
P. O. Box 8, Station B
Dayton, Ohio 45407
Phone: (513) 268-3411
TWX 810-459-1681

81-HW-0433

July 10, 1981

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HAZARDOUS WASTE FACILITY APPROVAL BOARD

Ms. Peggy Vince, Permit Coordinator
Ohio EPA Office of Hazardous Materials
Management
361 E. Broad St.
Columbus, OH 43215

BY CK DATE 12/29/81

Re: H.W.F.A.B. ID No. 81-HW-0433

Dear Ms. Vince:

Enclosed is a certified check in the amount of \$500 payable to
"Treasurer, State of Ohio" to cover the permit application fee
for a hazardous waste facility.

We were asked to explain, under Item IV (Haz. Waste Description),
SO2 and clarify. Our explanation is as follows: As noted on pages
1 and 5 of our Part A Hazardous Waste Permit Application, a capacity
of 82,000 gallons in tank storage is available on our site. This
total is a summation of the individual capacities of seven tanks at
10,000 gallons each, and one tank at 12,000 gallons.

These tanks are primarily used in the storage of chemicals to be used
in our processes, but if empty and if needed, are available to store
wastes. It is not our intention to use these tanks for waste storage
since the volume of waste generated is low, and is best handled by
packaging into 55-gallon, DOT approved drums. In fact, the waste streams
listed in our application are being and will be containerized in 55-gal-
lon drums. The tanks are merely an alternative for containerization
and will only be used as a last resort.

Also enclosed is the signed certification statement. Should you have
any questions or require additional information, please contact us.

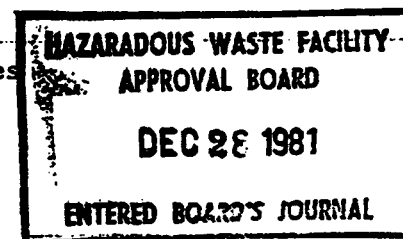
Sincerely,

Richard G. Hart

Richard G. Hart
Manager, Technical Services

per

Enclosures



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HAZARDOUS WASTE FACILITY APPROVAL BOARD

BY CK DATE 12/29/81

TERMS AND CONDITIONS (General)

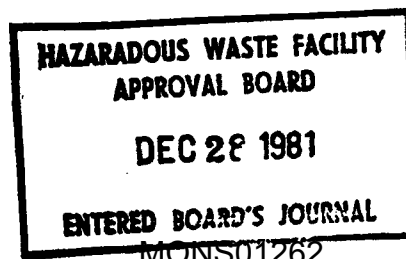
1. Only those hazardous wastes as identified by the U.S. EPA Hazardous Waste Number(s) set forth in the approved permit application, attached hereto, may be managed at the facility and only pursuant to the specified processes and design capacities indicated and set forth in the approved permit application.
2. The Permittee and the facility shall comply with all applicable performance standards adopted by the Director of Environmental Protection pursuant to Division (D) of Section 3734.12 of the Revised Code.
3. The Permittee and the facility shall comply with all applicable requirements of Chapter 3734 of the Revised Code, the Ohio Hazardous Waste Rules, and the federal statutes and regulations concerning hazardous waste.
4. This permit shall expire three years after its date of issuance. The date of issuance is the date the resolution to issue the permit was passed by the Board.
5. This permit, in accordance with the procedures of the Board, may be modified, revoked, or alternatively revoked and reissued, to comply with applicable provisions of Chapter 3734 of the Revised Code or the Ohio Hazardous Waste Rules.
6. The annual permit fee, payable to the Treasurer of State, shall be submitted to and received by the Board on or before the anniversaries of the date of issuance, during the term of the permit.
7. Unless otherwise specifically provided, all studies, reports, data, plans and other information required to be submitted by this permit shall be transmitted to:

Hazardous Waste Facility Approval Board
P.O. Box 1049
361 East Broad Street
Columbus, Ohio 43216

The permit number shall be indicated on the transmittal letter.

TERMS AND CONDITIONS (Special)

NOT APPLICABLE





UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION V
230 SOUTH DEARBORN ST.
CHICAGO, ILLINOIS 60604

REPLY TO ATTENTION OF:
5HW-13

JUL 30 1984

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Richard Hart
Manager of Technical Services
Monsanto Company
P.O. Box 8 Station B
Dayton, Ohio 45407

RE: Monsanto Company
Dayton Laboratory
1515 Nicholas Road
Dayton, Ohio
U.S. EPA I.D. #: OHD 004-855-292

Dear Mr. Hart:

Enclosed is a copy of the final Resource Conservation and Recovery Act (RCRA) permit for the above-referenced facility. Unless review is requested under 40 CFR 124.19, this permit shall become effective 30 days after "service of notice" of today's decision (40 CFR 124.20 describes how the 30 day period is computed). The permit will remain valid through the tenth anniversary of the permit effective date, unless the permit is modified, revoked and reissued, or terminated pursuant to 40 CFR 270.40-270.43.

You have the right to appeal any condition of the permit, pursuant to 40 CFR 124.19. Failure by your company to comply with any condition of the permit may result in civil and/or criminal penalties.

Copies of 40 CFR 124.19, 124.20 and 270.40-270.43 are enclosed for your information and use. If you have any questions, please contact Mr. Kenneth Skahn of my staff, at (312) 886-6198.

Sincerely,


Basil G. Constantelos, Director
Waste Management Division

Enclosure

cc: Charles J. Wilhelm
Ohio Environmental Protection Agency

**ENVIRONMENTAL/
INDUSTRIAL HYGIENE**

AUG 9 1984

REC'D. BY ADT

MONS01283

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V
HAZARDOUS WASTE MANAGEMENT PERMIT

Name of Permittee: Monsanto Company, Dayton Laboratory
Facility Location: 1515 Nicholas Road, Dayton, Ohio
EPA Identification Number: OHD 004-855-292
Effective Date: 30 days after service of notice of decision
requested under 40 CFR 124.19.
Expiration Date: Ten (10) years after the effective date

Authorized Activities

Pursuant to the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended (42 USC., §6901 et seq., commonly known as RCRA) and regulations promulgated thereunder by the U.S. Environmental Protection Agency (U.S. EPA) codified and to be codified in Title 40 of the Code of Federal Regulations, a permit is issued to Monsanto Company, Dayton Laboratory, (hereafter called the Permittee) to operate a hazardous waste storage facility located in Dayton, Ohio, at latitude 39'degrees 44'01.5" and longitude 84 degrees 13'10". You are authorized to conduct the following hazardous waste management activities:

<u>X</u> Storage	<u> </u> Treatment	<u> </u> Disposal
<u> X</u> Container	<u> </u> Tank	<u> </u> Injection Well
<u> </u> Tank	<u> </u> Surface Impoundment	<u> </u> Landfill
<u> </u> Waste Pile	<u> </u> Incinerator	<u> </u> Land Application
<u> </u> Surface Impoundment	<u> </u> Other (Detonation)	<u> </u> Surface Impoundment

Applicable Regulations:

The conditions of this permit were developed in accordance with the applicable provisions of 40 CFR Part:

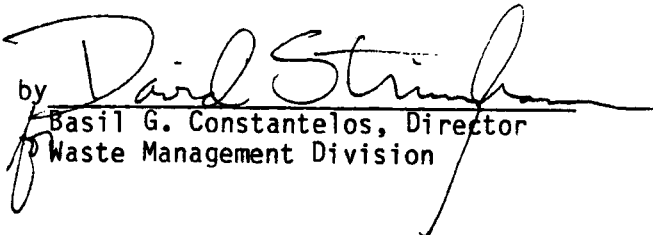
<u> X</u> 261	<u> X</u> 264, Subpart G	<u> </u> 264, Subpart K
<u> X</u> 262	<u> X</u> 264, Subpart H	<u> </u> 264, Subpart L
<u> X</u> 264,	<u> X</u> 264, Subpart I	<u> </u> 264, Subpart O
<u> X</u> 264, Subpart A-E	<u> </u> 264, Subpart J	<u> X</u> 270

Permit Approval:

The Permittee must comply with all terms and conditions of this permit. This permit consists of the conditions contained herein (including those in any attachments) and the applicable regulations contained in 40 CFR Parts 260 through 264 and 270 and 124 as specified in the permit. Applicable regulations are those which are in effect on the date of issuance of this permit (see 40 CFR §270.32(c)).

This permit is based on the assumption that the information submitted in the final permit application, as amended, (hereafter referred to as the application) is accurate and that the facility will be constructed and operated as specified in the application. Any inaccuracies found in this information may be grounds for the termination or modification of this permit (see 40 CFR §270.42 and §270.43) and potential enforcement action. The Permittee must inform U.S. EPA of any deviation from or changes in the information in the application which would affect the Permittee's ability to comply with the applicable regulations or permit conditions.

Issued this 30th day of July, 1984

by 
Basil G. Constantelos, Director
Waste Management Division

**ENVIRONMENTAL/
INDUSTRIAL HYGIENE**

AUG 9 1984

REC'D. BY HDT

MONS01285

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HAZARDOUS WASTE MANAGEMENT PERMIT

ATTACHMENT I

PERMIT CONDITIONS

MONSANTO COMPANY

DAYTON LABORATORY

U.S. EPA ID #: OHD 004-855-292

MONS01287

I. STANDARD CONDITIONS

A. EFFECT OF PERMIT

The Permittee is allowed to store hazardous waste in accordance with the conditions of this permit. Any storage of hazardous waste not authorized in this permit is prohibited. Compliance with this permit constitutes compliance, for purposes of enforcement, with Subtitle C of RCRA. Issuance of this permit does not convey property rights of any sort or any exclusive privilege; nor does it authorize any injury to persons or property, any invasion of other private rights, or any infringement of State or local law or regulations. Compliance with the terms of this permit does not constitute a defense to any order issued or any action brought under Section 3013 or Section 7003 of RCRA, Section 106(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. 9606(a), commonly known as (CERCLA), or any other law providing for protection of public health or the environment.

B. PERMIT ACTIONS

This permit may be modified, revoked and reissued, or terminated for cause as specified in 40 CFR 270.41, 270.42, and 270.43. The filing of a request for a permit modification, revocation and reissuance, or termination or the notification of planned changes or anticipated noncompliance on the part of the Permittee does not stay the applicability or enforceability of any permit condition.

C. SEVERABILITY

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby.

D. DUTIES AND REQUIREMENTS


1. Duty to Comply. The Permittee shall comply with all conditions of this permit, except to the extent and for the duration such noncompliance is authorized by an emergency permit. Any permit noncompliance, other than non-compliance authorized by an emergency permit, constitutes a violation of RCRA and is grounds for enforcement action, permit termination, revocation and reissuance, modification, or denial of a permit renewal application, or other appropriate action.

2. Duty to Reapply. If the Permittee wishes to continue an activity allowed by this permit after the expiration date of this permit, the Permittee shall submit a complete application for a new permit at least 180 days before this permit expires.
3. Permit Expiration. The duration of this permit shall be ten years from the effective date of the permit, in conformance with the provisions of 40 CFR §270.50. This permit and all conditions herein will remain in effect beyond the permit's expiration date if the Permittee has submitted a timely, complete application (see 40 CFR 270.13 - 270.16) and through no fault of the Permittee the Regional Administrator has not issued a new permit as set forth in 40 CFR 270.51.
4. Need to Halt or Reduce Activity Not a Defense. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
5. Duty to Mitigate. The Permittee shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this permit.
6. Proper Operation and Maintenance. The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facility or similar systems only when necessary to achieve compliance with the conditions of the permit.
7. Duty to Provide Information. The Permittee shall furnish to the Regional Administrator, within a reasonable time, any relevant information which the Regional Administrator may request to determine whether cause exists for modifying, revoking and re-issuing, or terminating this permit, or to determine compliance with this permit. The Permittee shall also furnish to the Regional Administrator, upon request, copies of records required to be kept by this permit.
8. Inspection and Entry. The Permittee shall allow the Regional Administrator, or an authorized representative, upon the presentation of credentials and other documents as may be required by law to:
 - (a) Enter at reasonable times upon the Permittee's premises where a regulated activity is located or conducted, or where records must be kept under the conditions of this permit;

- (b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- (c) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
- (d) Sample or monitor, at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by RCRA, any substances or parameters at any location.

9. Monitoring and Records.

- (a) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. The method used to obtain a representative sample of the waste to be analyzed must be the appropriate method from Appendix I of 40 CFR Part 261. Laboratory methods must be those specified in Test Methods for Evaluating Solid Waste: Physical/Chemical Methods SW-846 June 1982; Standard Methods for the Examination of Water and Wastewater, 1980; or an equivalent method as specified in the attached Waste Analysis Plan, Attachment II.
- (b) The Permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports and records required by this permit, and records of all data used to complete the application for this permit for a period of at least 3 years from the date of the sample, measurement, report or record. These periods may be extended by request of the Regional Administrator at any time and are automatically extended during the course of any unresolved enforcement action regarding this facility.
- (c) Records of monitoring information shall specify:
 - (i) The dates, exact place, and times of sampling or measurements;
 - (ii) The individuals who performed the sampling or measurements;
 - (iii) The dates analyses were performed;
 - (iv) The individuals who performed the analyses;
 - (v) The analytical techniques or methods used; and
 - (vi) The results of such analyses.

10. Reporting Planned Changes. The Permittee shall give notice to the Regional Administrator as soon as possible of any planned physical alterations or additions to the permitted facility.
11. Certification of Construction or Modification. No certification of construction or modification is necessary, as all modifications required for permit issuance have already been effected.
12. Anticipated Noncompliance. The Permittee shall give advance notice to the Regional Administrator of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.
-  13. Transfer of Permits. The permit may be transferred to a new owner or operator only if it is modified or revoked and reissued to 40 CFR 270.41(b)(2) or 270.42(d). Before transferring ownership or operation of the facility during its operating life, the Permittee shall notify the new owner or operator in writing of the requirements of 40 CFR Parts 264 and 270.
14. Compliance Schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.
15. Twenty-four Hour Reporting. The Permittee shall report to the Regional Administrator any noncompliance with the permit which may endanger health or the environment. Any such information shall be reported orally within 24 hours from the time the Permittee becomes aware of the circumstances. This report shall include the following:
- (a) Information concerning the release of any hazardous waste which may endanger public drinking water supplies.
 - (b) Information concerning the release or discharge of any hazardous waste, or of a fire or explosion at the facility, which could threaten the environment or human health outside the facility. The description of the occurrence and its cause shall include:
 - (i) Name, address, and telephone number of the owner or operator;
 - (ii) Name, address, and telephone number of the facility;

- (iii) Date, time, and type of incident;
- (iv) Name and quantity of materials involved;
- (v) The extent of injuries, if any;
- (vi) An assessment of actual or potential hazard to the environment and human health outside the facility, where this is applicable; and
- (vii) Estimated quantity and disposition of recovered material that resulted from the incident.

A written submission shall also be provided within 5 days of the time the Permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the periods of noncompliance (including exact dates and times); whether the noncompliance has been corrected; and if not, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. The Permittee need not comply with the five day written notice requirement if the Regional Administrator waives the requirement and the Permittee submits a written report within fifteen days of the time the Permittee becomes aware of the circumstances.

- 16. Other Noncompliance. The Permittee shall report all other instances of noncompliance not otherwise required to be reported above, at the time monitoring reports, as required by this permit are submitted. The reports shall contain the information listed in condition I.D.15.
- 17. Other Information. Whenever the Permittee becomes aware that he failed to submit any relevant facts in the permit application, or submitted incorrect information in a permit application or in any report to the Regional Administrator, the Permittee shall promptly submit such facts or information.
- E. Signatory Requirement. All reports or other information requested by the Regional Administrator shall be signed and certified as required by 40 CFR 270.11.
- F. Confidential Information. The Permittee may claim confidential any information required to be submitted by this permit in accordance with 40 CFR 270.12.
- G. Documents To be Submitted Prior to Operation. No documents are required to be submitted prior to operation.

H. Documents To Be Maintained at Facility Site. The Permittee shall maintain at the facility, until closure is completed and certified by an independent registered professional engineer, the following documents and amendments, revisions and modifications to these documents:

- (1) Waste analysis plan as required by 40 CFR 264.13 and this permit.
- (2) Inspection schedules as required by 40 CFR 264.15(b) and this permit.
- (3) Contingency plan as required by 40 CFR 264.53(a) and this permit.
- (4) Closure plan as required by 40 CFR 264.112(a) and this permit.
- (5) Cost estimate for facility closure as required by 40 CFR 264.142(d) and this permit.
- (6) Operating record as required by 40 CFR 264.73 and this permit.
- (7) Personnel training documents and records as required by 40 CFR 264.16(d) and this permit.

II. GENERAL FACILITY CONDITIONS

- A. Design and Operation of Facility. The Permittee shall maintain and operate the facility to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment.
- B. Required Notice.
- (1) The Permittee shall notify the Regional Administrator in writing at least four weeks in advance of the date the Permittee expects to receive hazardous waste from a foreign source. Notice of subsequent shipments of the same waste from the same foreign source in the same calendar year is not required.
 - (2) When the Permittee is to receive hazardous waste from an off-site source (except where the Permittee is also the generator), he must inform the generator in writing that he has the appropriate permits for, and will accept, the waste the generator is shipping. The Permittee must keep a copy of this written notice as part of the operating record. (See Condition II.J.1).
- C. General Waste Analysis. The Permittee shall follow the procedures described in the attached waste analysis plan, Attachment II.
- D. Security. The Permittee shall comply with the security provisions of 40 CFR 264.14(b) and (c).
- E. General Inspection Requirements. The Permittee shall follow the inspection schedule, Attachment III. The Permittee shall remedy any deterioration or malfunction discovered by an inspection as required by 40 CFR 264.15(c). Records of inspections shall be kept as required by 40 CFR 264.15(d).
- F. Personnel Training. The Permittee shall conduct personnel training as required by 40 CFR 264.16. This training program shall follow the attached outline, Attachment IV. The Permittee shall maintain training documents and records as required by 40 CFR 264.16(d) and (e).
- G. General Requirements for Ignitable, Reactive, or Incompatible Waste. The Permittee shall comply with the requirements of 40 CFR 264.17(a).

H. Location Standards. There are no location standards applicable to this facility.

I. Preparedness and Prevention

1. Required Equipment. At a minimum, the Permittee shall equip the facility with the equipment set forth in the contingency plan, Attachment V as required by 40 CFR 264.32.
2. Testing and Maintenance of Equipment. The Permittee shall test and maintain the equipment specified in the previous permit condition as necessary to assure its proper operation in time of emergency.
3. Access to Communications or Alarm System. The Permittee shall maintain access to the communications or alarm system as required by 40 CFR 264.34.
4. Required Aisle Space. At a minimum, the Permittee shall maintain aisle space as required by 40 CFR 264.35.
5. Arrangements with Local Authorities. The Permittee shall attempt to make arrangements with State and local authorities as required by 40 CFR 264.37. If State or local officials refuse to enter into preparedness and prevention arrangements with the Permittee, the Permittee must document this refusal in the operating record.

J. Contingency Plan.

1. Implementation of Plan. The Permittee shall immediately carry out the provisions of the contingency plan, Attachment V, and follow the emergency procedures described by 40 CFR 264.56 whenever there is a fire, explosion, or release of hazardous waste or constituents which threatens or could threaten human health or the environment.
2. Copies of Plan. The Permittee shall comply with the requirements of 40 CFR 264.53.
3. Amendments to Plan. The Permittee shall review and immediately amend, if necessary, the contingency plan, as required by 40 CFR 264.54.
4. Emergency Coordinator. The Permittee shall comply with the requirements of 40 CFR 264.55, concerning the emergency coordinator.

K. Manifest System. The Permittee shall comply with the manifest requirements of 40 CFR 264.71, 264.72, and 264.76.

L. Recordkeeping and Reporting.

1. Operating Record. The Permittee shall maintain a written operating record at the facility in accordance with 40 CFR 264.73(a), (b)(1), (2), (3), (4), (5), (6), (7) and (8).

2. Biennial Report. The Permittee shall comply with the biennial report requirements of 40 CFR 264.75.

M. Closure.

1. Performance Standard. The Permittee shall close the facility as required by 40 CFR 264.111 and in accordance with the closure plan, Attachment VI.

2. Amendment to Closure Plan. The Permittee shall amend the closure plan in accordance with 40 CFR 264.112(b) whenever necessary.

3. Notification of Closure. The Permittee shall notify the Regional Administrator at least 180 days prior to the date he expects to begin closure.

4. Time Allowed For Closure. After receiving the final volume of hazardous waste, the Permittee shall remove from the site all hazardous waste in accordance with the schedule specified in the closure plan, Attachment VI. After receiving the final volume of hazardous waste, the Permittee shall complete closure activities in accordance with the schedule specified in the closure plan, Attachment VI.

5. Disposal or Decontamination of Equipment. The Permittee shall decontaminate and/or dispose of all facility equipment as required by 40 CFR 264.114 and the closure plan, Attachment VI.

6. Certification of Closure. The Permittee shall certify that the facility has been closed in accordance with the specifications in the closure plan, Attachment VI, and as required by 40 CFR 264.115.

III. STORAGE IN CONTAINERS

- A. Waste Identification. The Permittee may store the following waste in containers at the facility, subject to the terms of the permit.

- D001 -- Waste exhibiting the characteristic of ignitability per 40 CFR 261.21.
- D002 -- Waste exhibiting the characteristic of corrosivity per 40 CFR 261.22.
- D003 -- Waste exhibiting the characteristic of reactivity per 40 CFR 261.23.
- D004 -- Waste exhibiting the characteristic of EP Toxicity for Arsenic per 40 CFR 261.24.
- D005 through D016 -- Waste exhibiting the characteristic of EP Toxicity per 40 CFR 261.24.
- F001 -- The following spent halogenated solvents used in degreasing: tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride, and chlorinated fluorocarbons; and sludges from the recovery of these solvents in degreasing operations.
- F002 -- The following spent halogenated solvents: tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, ortho-dichlorobenzene, and trichlorofluoromethane; and the still bottoms from the recovery of these solvents.
- F003 -- The following spent non-halogenated solvents: xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone, and methanol; and the still bottoms from the recovery of these solvents.
- F004 -- The following spent non-halogenated solvents: cresols and cresylic acid, and nitrobenzene; and the still bottoms from the recovery of these solvents.
- F005 -- The following spent non-halogenated solvents: toluene, methyl ethyl ketone, carbon disulfide, isobutanol, and pyridine; and the still bottoms from the recovery of these solvents.

All discarded commercial chemical products, manufacturing chemical intermediates, or off-specification commercial chemical products listed under 40 CFR 261.33, paragraphs (e) and (f) as of the effective date of this permit.

The Permittee shall store only containerized waste and only within the storage area identified in the permit application. The Permittee shall not, at any one time, store an amount of waste greater than 11,400 gallons.

- B. Conditions of Containers. If a container holding hazardous waste is not in good condition (e.g., severe rusting, apparent structural defects or if it begins to leak, the Permittee shall transfer the hazardous waste from such container to a container that is in good condition or otherwise manage the waste in compliance with the conditions of this permit.
- C. Compatibility of Waste with Containers. The Permittee shall assure that the ability of the container to contain the waste is not impaired as required by 40 CFR 264.172.
- D. Management of Containers. The Permittee shall manage containers as required by 40 CFR 264.172.
- E. Containment. The Permittee shall maintain the containment systems in accordance with the requirements of 40 CFR 264.175.
- F. Special Requirements for Ignitable or Reactive Waste. The Permittee shall not locate containers holding ignitable or reactive waste within 15 meters (50 feet) of the facility's property line.
- G. Special Requirements for Incompatible Waste.
1. Prior to placing incompatible wastes or incompatible wastes and materials in the same container, the Permittee shall comply with 40 CFR 264.17(b) as specified in Attachment VII.
 2. The Permittee shall not place hazardous waste in an unwashed container that previously held an incompatible waste or material.
 3. The Permittee shall separate containers of incompatible wastes as indicated in the attached plan, Attachment VII. as required by 40 CFR 264.177(c).
 4. The Permittee must document compliance with III.G.(1) and (2) as required by 40 CFR 264.17(c) and place this documentation in the operating record (condition II.L.1).

ENVIRONMENTAL ASSESSMENT MANUAL

**MONSANTO AGRICULTURAL COMPANY
DAYTON, OHIO PLANT**

AUTHORS: James A. Peters, Industrial & Environmental Analysts, Inc.
Randy White, Monsanto Agricultural Company - Dayton Plant

PREPARED: December 1991
Revision 4

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1. EXECUTIVE SUMMARY

Monsanto Worldwide Environmental Protection Guideline #3 requires all plant sites to establish and maintain an environmental assessment document. This assessment document includes information on local air and water quality, soil and vegetation sampling, relationships with regulatory agencies, and the effects of the plant site's presence on the surrounding environment. Documentation of subsequent changes or additions will be filed at the plant site so that an update can be readily prepared should the need arise. The Executive Summary is to be updated annually, reflecting long range plans and highlighting key environmental issues, with information transmitted to Environmental Managers.

1.1 SITE INFORMATION

The Dayton Site operates a small Production Unit as the only site business, which provides small-scale manufacturing services to Monsanto Company. As of January 1986, the site became part of the Monsanto Agricultural Company.

1.2 AIR

Chemical plant emissions are covered by 14 permits, issued by the Ohio EPA and effective until 1992 and 1994, depending on the source. All gas-fired boilers, storage tanks, area ventilation systems, laboratory hoods, coolers and hot rooms are on registration status (no permit-to-operate required). The largest process sources require emission testing to demonstrate compliance. The Dayton area is a non-attainment area for ozone.

1.3 WATER

The Dayton Site discharges chemical and sanitary wastewater indirectly to the Great Miami River via the Municipal Wastewater Treatment Plant, and noncontact cooling water and stormwater directly to the river. Direct discharges are covered by a state NPDES (National Pollutant Discharge Elimination System) permit, which expired in April 1989 and is under renewal.

A new chemical/sanitary sewer line was installed in 1991, connecting to the City of Dayton WWTP sewer system. The Dayton Site is subject to pretreatment regulations for the industrial categories of pesticides and organic chemicals, plastics, and synthetic fibers (OCPSF).

Although not required to conduct groundwater monitoring by any federal, state or local regulations, a monitoring well system has been installed and biannual sampling is conducted. This database will become part of RCRA remedial feasibility assessment.

1.4 SOLID AND HAZARDOUS WASTE

The Dayton Site generates hazardous waste from chemical plant and laboratory activities. The site has a RCRA Part B permit to store hazardous waste in containers, which is currently under renewal. Wastes are manifested and transported off-site for recycling into cement kiln fuel or treatment by incineration. There is no on-site treatment or disposal of hazardous wastes, except for small quantities which can be legitimately neutralized and sewered.

Ohio EPA inspects the hazardous waste storage facility annually. Annual Generator and Facility Reports are submitted to Ohio EPA.

The Dayton Site is PCB-free, having removed or retrofitted all transformers. Some small amounts of asbestos insulation still remain, with plans to remove and dispose on an as-needed basis. Low-level radioactive waste, once stored on-site in a bunker facility (Building 7), was removed and the building was decommissioned and demolished in 1987. Industrial non-hazardous wastes are segregated and sold as scrap or disposed in the Montgomery County Trash Incinerator.

1.5 OCCUPATIONAL HEALTH CONTROL

The Environmental and Industrial Hygiene department reviews plant projects, evaluates occupational exposures to hazards, and transmits medical/toxicological information to employees about materials in use and the results of industrial hygiene monitoring. The department also conducts periodical personnel and/or area monitoring for occupational exposures to physical and chemical agents throughout the site.

New employees are given an environmental and industrial hygiene indoctrination, and periodic meetings are scheduled in each group as needed to cover new or modified aspects of corporate or regulatory requirements for industrial hygiene.

1.6 AMBIENT NOISE

There have been no known community complaints regarding ambient noise levels attributable to Dayton Site activities. Noise surveys have indicated that the major source of noise at the plant is railway traffic and motor vehicle traffic outside the plant perimeter.

2. GENERAL PLANT INFORMATION

2.1 SITE LOCATION AND DESCRIPTION

The Dayton Plant of Monsanto Agricultural Company is located on the southern edge of the City of Dayton, Ohio. The site, located on the west bank of the Great Miami River, is situated on Nicholas Road between Broadway Street and Danner Avenue. Primary access from Interstate I-75 is via the Nicholas Road interchange, which is approximately one mile east of the site. Figure 2-1 provides a topographical map of the site and surrounding area.

The Site is built on a 20-acre plot which is mostly flat and consists of two major and eight minor buildings. The major buildings and their primary functions are listed below:

<u>Building No.</u>	<u>Primary Function</u>
1	Administrative and staff offices; analytical laboratories; instrument and maintenance shops; safety and first aid facilities
20	Chemical manufacturing plant and laboratories

Figure 2-2 shows a site plan illustrating the layout and relative size of each building.

2.2 SITE ACCESSIBILITY

Transportation requirements are served by major highway and rail connections. Truck shipments to and from the site use I-75 for access to major highway networks. The Greater Dayton airport is located 13 miles from the site, north of Dayton and northwest of the I-75 and I-70 interchange. The Greater Miami River is not used for commercial traffic.

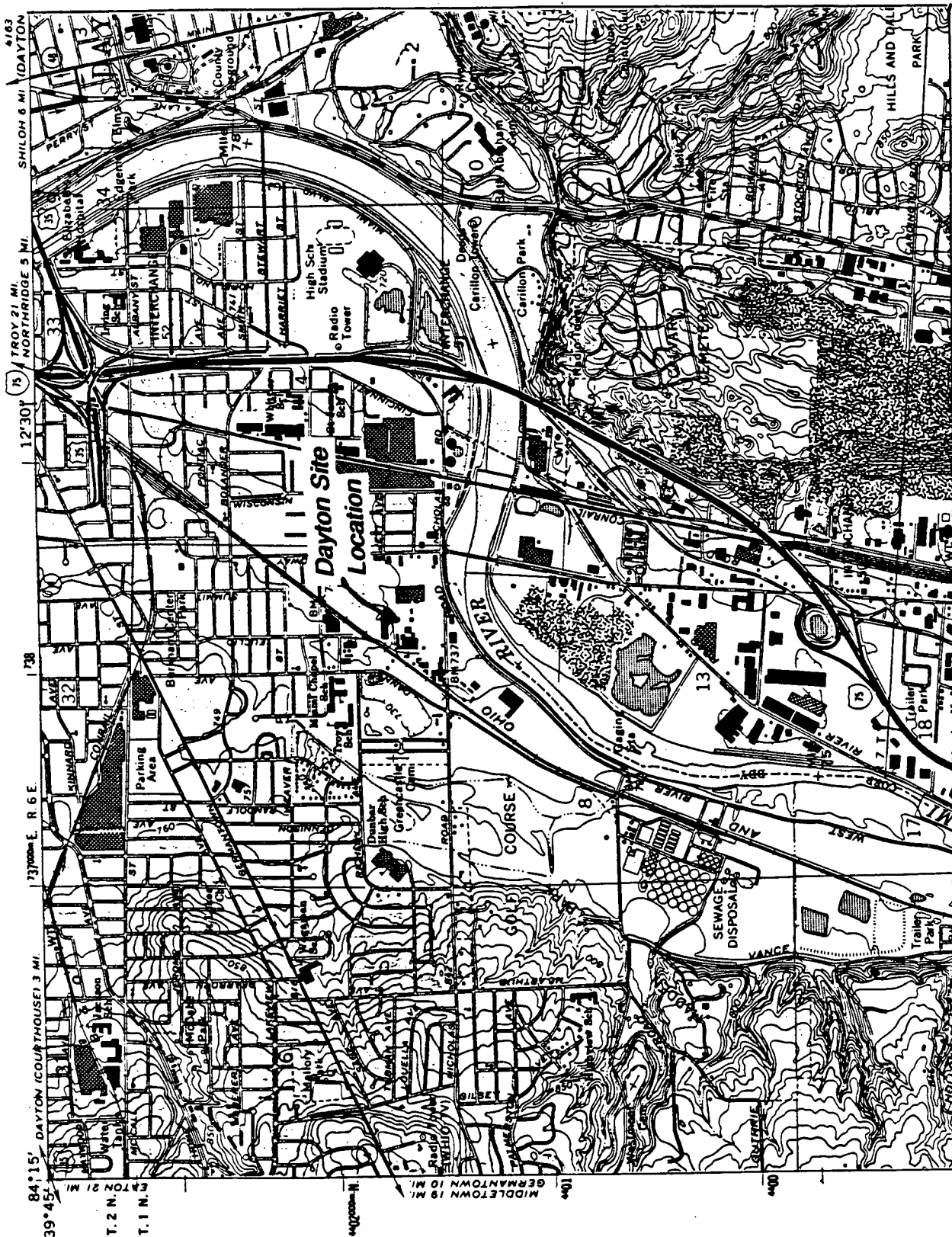


Figure 2-1. Topographic Map of Dayton Site and Surrounding Area.

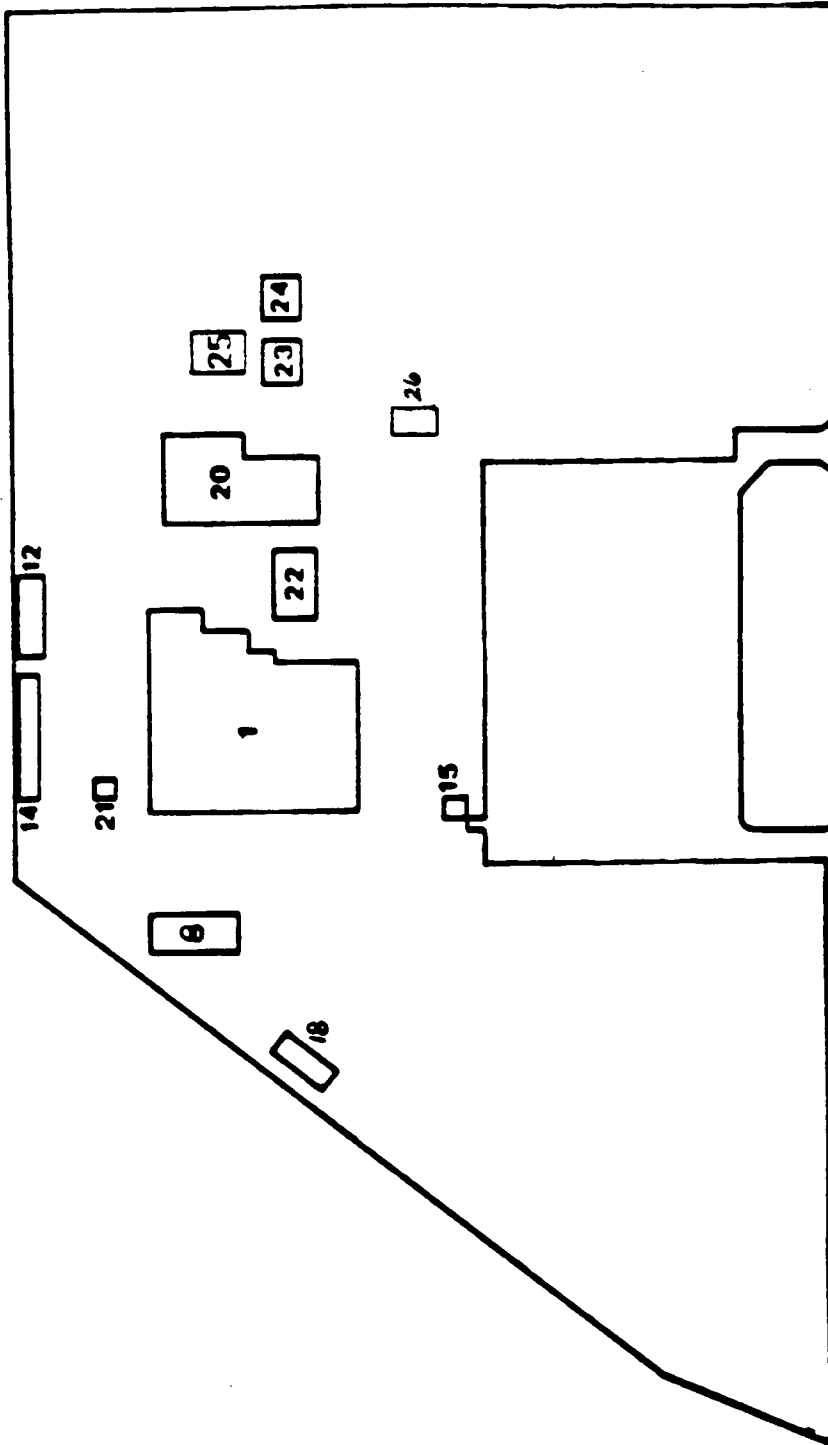


Figure 2-2. Dayton Site Buildings and Site Layout.

2.3 WEATHER DATA

The Dayton Site is located in the southwest Ohio state climatic division and experiences a typical midwestern climate involving four seasonal changes. Neither winter nor summer is considered severe. Only 116 mean number of days per year have a minimum temperature of 32°F or lower; 18 mean annual days have temperatures that reach 90°F or above; and the freeze-free period is 184 days. The mean date of the last 32°F temperature in the spring is April 20, and the mean date of the first 32°F temperature in the fall is October 21. The normal total heating degree days (based on 65°F) is 5,622. A degree day is a unit that represents one degree of declination from a given point (65°F) in the mean daily outdoor temperature and that is used to measure heat requirements.

The mean annual total precipitation in the southwestern state climatic division is 39.87 inches, amounting to 694 gallons of water per square mile, or 2.1 gallons per capita. Water supply for the Dayton area is primarily via underground wells. The highest precipitation months for the division are May and June, with a mean monthly precipitation of 4.21 and 4.16 inches, respectively. The mean snowfall is below 24 inches, and the mean annual dew point is 42°F.

The prevailing wind direction is southwest with a mean annual wind speed 10.3 miles per hour. The highest speed recorded over a 47-year period was 78 miles per hour from the northwest.

2.4 SITE ORGANIZATION

Approximately 65 permanent, 12 temporary and 7 contractor people were employed at the Dayton Site at the end of 1990. The site at that time consists of the Production Facility and its support groups.

2.5 SITE HISTORY

In 1936, Monsanto purchased the Dayton Site from Thomas & Hochwalt Laboratories of Dayton, Ohio and established a centralized research unit for the Company. This new acquisition, initially called the Thomas & Hochwalt Laboratories Department of Monsanto, became the Central Research Department for the Company. The Dayton Site served as Monsanto's primary product research facility until the function was centralized in 1960. Some of the site's milestones and products or materials handled are summarized in the following history:

- 1936 Laboratory acquired; research conducted on Santoresin® for paints and varnishes, Santomerse® synthetic detergent, and phosphate detergent builders.
- 1938 Pilot scale production and process studies begin in Buildings 3, 4, 10 and 11; products include metaphenoxybenzene lubricant, Krillium® soil conditioner, low pressure polyethylene, organophosphorus and organometallic compounds, and titanium tetrachloride.
- 1940-45 Research efforts concentrate on national defense projects such as styrene process, synthetic rubbers, engine fouling additives, pentaerythritol for PETN explosives, sealants for engine blocks, and flow improving additives for engine oils.
- 1946 Monsanto acquires the Chandler-Evans building which tested B-29 carburetors; this became named Building 1.
- 1946-60 Research efforts concentrate on Monsanto products such as All® non-sudsing detergent, polyelectrolytes, Santodex® viscosity improver for motor oil, anti-foam agents, styrene, vinyl chloride and acrylonitrile polymers and copolymers, acrylic latex paints, oxo-alcohol raw materials for plasticizers, nylon-6 technology, silicon and gallium arsenide semiconductors, and Acrilan® fibers.
- 1954 Building 20 built for pilot scale production; pilot production ceases in Buildings 3, 4, 10 and 11.
- 1960 Transfer of personnel to new Research Center in St. Louis, with about 200 people remaining at Dayton Site.
- 1960 Monsanto Research Corporation formed to undertake government contract research in areas of current or potential interest to Monsanto. Dayton one of three MRC sites with Mound Laboratory and Boston Laboratory.
- 1960-70 Advanced material research for NASA and Department of Defense includes high temperature fluids, non-flammable fluids, structures for assembly in space, graphite fibers, structural composites for aircraft and space vehicles, flameproof fabrics, high temperature coatings, thermoelectric materials and devices, adhesives for space vehicles, solid propellants, explosive binders, ablative materials for nose cone re-entry and space vehicle heat shields, fuels and lubricants analyses, foams for flotation, foams for weapon systems development, combustion studies, runway de-icers, corrosion studies, liquid oxygen resistant materials, chemical warfare

materials, fuel resistant elastomers and sealants, and atomic reactor coolants.

- 1962 Engineered Products Department formed and transferred from the Mound Laboratory, to manufacture and market radioisotope sources.
- 1966 Decision to put pilot plant (Building 20) to full use in making developmental quantities of products for Monsanto and commercial customers; initial processes included metabolite extraction from soybeans, synthesis and extraction of compounds for NIOSH anti-cancer drugs, Lopac® plastic for bottles, and various resins.
- 1970's Contract research emphasis shifts to environment, health and safety; environmental projects include research in process evaluation, instrumentation, analysis and monitoring, and waste treatment (at one time a 4-inch sewer line from the Dayton WWT pumping station furnished raw material for treatment studies); other research included radio-tagged pharmaceuticals, synthesis of anti-malarials, synthesis and pilot production of anti-cancer drugs, production of methotrexate, Hollow fibers, blood compatible materials, flame retardants, and solar energy materials.
- 1970's Pilot plant production continues on Monsanto products such as herbicides (MON 097, Vegadex®, Bronco®), Builder M and Builder U detergents, Vyset®, Resimene® melamine-formaldehyde resins, Resinox® phenol-formaldehyde resins, synthetic fatty acids, polyimide foam, bisphenols, bromination reactions, and Prism® hollow fiber gas separators.
- 1977 The Monsanto Environmental Sciences Center was formed to provide environmental problem-solving and analytical services for the Company.
- 1982 In fall, Monsanto decides to phase out of Government contract and commercial services operations.
- 1984 By mid-year, phase out of Government contract operations is complete.
- 1984 Dayton Site is separated from Monsanto Research Corporation and included as a unit of the Corporate Research and Development staff.
- 1985 Transfer of the Environmental Sciences Center and its 29 people to corporate headquarters is completed.

- 1985 By year's end, phase out of Engineered Products is completed.
- 1985 By year's end, phase out of the Organic Synthesis group is completed.
- 1986 The Dayton Laboratory is incorporated into Monsanto Agricultural Company and redesignated as the "Dayton Plant" to reflect its purpose of interim scale chemical production; products produced include Bronco® herbicide, Screen® seed safener, Limit® plant growth regulator, Dimension® herbicide, methotrexate, and Nyrin® prepolymer.

2.6 ENVIRONMENTAL PROTECTION IMPLEMENTATION RESPONSIBILITY

Overall responsibility for implementation of health and environmental protection lies with the Plant Manager, Dayton Plant. The Environmental and Health Supervisor is responsible for the implementation of programs in these areas and is assisted by an Environmental Technician and an Industrial Hygiene Technician. The safety function is overseen by the Human Resources & Safety Manager. Figure 2-3 shows the organization at the Dayton Plant for carrying out environmental protection programs.

2.7 ENVIRONMENTAL NEIGHBORHOOD CONCERNS

The Dayton Site is located in an area that is generally light industry and residential. The immediate boundary line neighborhood is not residential and does not pose a sensitive environmental situation. As shown in Figure 2-1, the north boundary of the site is adjacent to an abandoned steel foundry. The northwest fence line borders a railroad right-of-way and the other side of the railway borders a scrap metal storage yard and processing operation. A warehousing facility, which is part of the abandoned steel facility is located to the east of the plant's border. The south side of the plant is the Nicholas Street right-of-way. On the opposite side of the street, there is a small furniture manufacturer, a vending machine operator, a truck terminal, and the heavy equipment yard of a construction company.

Residential areas are located approximately 3,000 feet to the west and northwest, approximately 1,500 feet to the north, and approximately 1,500 feet to the east. Several schools are located near the plant: Dunbar High School approximately 3,000 feet west; Miami Chapel and Troy Schools approximately 1,000 feet northwest; Whittier School approximately 3,500 feet northeast; and St. James School approximately 2,500 feet east-northeast. A municipal golf course is located to the southwest of the site.

2.8 ENVIRONMENTAL EXPENDITURES

The estimated environmental expenditures (based on 1990 figures) are shown in Table 2-1.

TABLE 2-1. ENVIRONMENTAL EXPENDITURES BY CATEGORY	
Category	Expenditure, \$k
Air Pollution Control	59.5
Wastewater Pretreatment	38.0
Solid and Hazardous Waste Treatment and Disposal	259.0
Staff Cost and Expenses	190.0

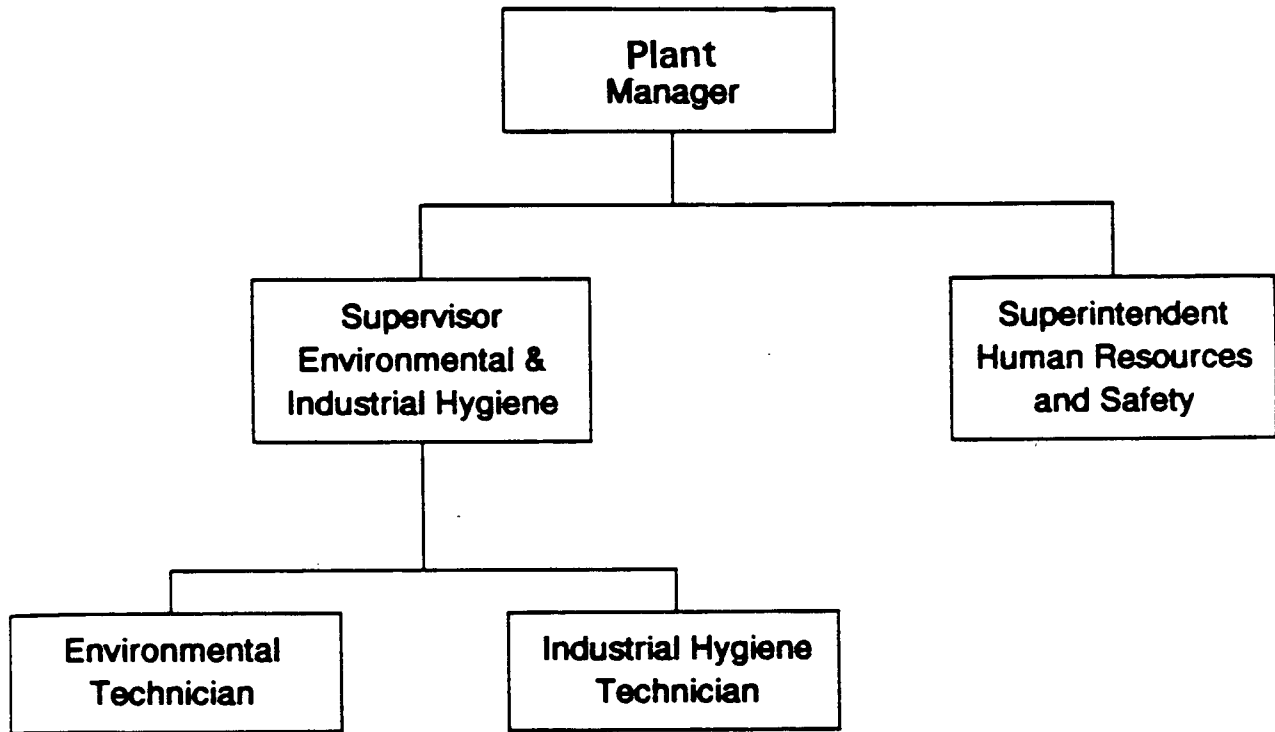


Figure 2-3. Site organization for implementation of environmental, health and safety protection.

3. AIR QUALITY CONTROL

3.1 REGULATORY STRUCTURES

Federal

U.S. Environmental Protection Agency
Region V
230 South Dearborn Street
Chicago, Illinois 60604
312/353-2000

Contact: Valdas V. Adamkus, Regional Administrator
David A. Kee, Director, Air Management Division
Larry Kertcher, Chief, Air Compliance Branch

State

Ohio Environmental Protection Agency
1800 Water Mark Drive
Columbus, Ohio 43266-0149
614/644-2270

Contact: Patricia P. Walling, Chief, Division of Air Pollution
Control

Local

Regional Air Pollution Control Agency (RAPCA)*
451 West Third Street
P.O. Box 972
Dayton, Ohio 45422
513/225-4435

Contact: Jennifer Osborne, Air Pollution Control Specialist
John A. Paul, Supervisor

* Darke, Miami, Clark, Preble, Montgomery and Greene counties.

3.2 REGULATORY RELATIONSHIPS

The Production Unit at the Dayton Site operates under 20 air permits-to-install (PTI) and permits-to-operate (PTO) from the Ohio EPA and maintained through the Regional Air Pollution Control Agency (RAPCA). Six gas-fired boilers are registered, but a permit is not required for operation.

There have been complaints of odors and visible emissions from the Production Unit on several occasions. No fines or penalties have resulted from these incidents.

A good relationship exists with the local air pollution control officials.

3.3 AIR POLLUTION CONTROL LAWS

3.3.1 Federal Laws

The Clean Air Act is the major federal air pollution control law in force. Its purpose is to protect and enhance air quality in order to protect public health and welfare. The Clean Air Act (P.L. 91-604, December 1970) attempts to accomplish this goal through two basic approaches: ambient air quality management and national emission standards of individual pollutants at their sources. With the energy crisis of 1973-1974, the Act was amended by the Energy Supply and Environmental Coordination Act (ESECA) of 1974 (P.L. 93-319) in an attempt to stimulate increased use of domestic fuels through temporary waivers of emission control requirements. Continued energy and economic concerns plus a number of implementation problems led to the Clean Air Act Amendments of 1977 (P.L. 95-95). None of these amendments changed the basic structure or the goals of the Act; nor did they permit any waiver of health-based air quality standards, although delays in attainment were allowed. Although statutory authorization for appropriations under the CAA expired in 1981, funds for various programs required by the CAA have been provided by Congress as a part of the annual EPA budget.

The basic structure of the Clean Air Act is contained in the following provisions:

- National Ambient Air Quality Standards (NAAQS), which set limits on pollution levels in ambient (outdoor) air;
- State Implementation Plans (SIPs), by which States translate NAAQSs into emission limits for specific sources;
- National Emission Standards for Hazardous Air Pollutants (NESHAPs), which are set based on identified health effects;
- New Source Performance Standards (NSPS), which impose Federal technology-based control requirements on emissions from new or rebuilt stationary sources of pollution;
- Mobile source controls that restrict emissions from motor vehicles;
- Prevention of Significant Deterioration (PSD), designed to prevent cleaner air in selected regions from deteriorating to the maximum (most polluted) levels allowed by the NAAQS; and
- Limitations on new emissions in nonattainment areas where NAAQS are not being met -- by utilizing ceilings or offsets.

The Clean Air Act Amendments of 1990 (P.L. 101-549, November 15, 1990) created sweeping revisions to the existing CAA. This new legislation is designed to curb three major threats to the nation's environment and health: acid rain, urban air pollution, and toxic air emissions. The amendments also call for establishing a national permits program to make the law more workable, and an improved enforcement program to ensure better compliance with the Act.

The 1990 Amendments are organized into the following Titles:

- Title I - Provisions for Attainment and Maintenance of NAAQS, which require States to make constant formidable progress in reducing emissions to bring ambient air into NAAQS attainment.

- Title II - Provisions Relating to Mobile Sources, which establishes tighter pollution standards for emissions from automobiles and trucks, controls in refueling emissions, and reductions in gasoline volatility and sulfur content of diesel fuel.

- Title III - Air Toxics, which establishes a list of 189 toxic air pollutants which must be reduced.

- Title IV - Acid Deposition Control, which phases in reductions of SO₂ and NO_x emissions from affected sources.

- Title V - Permits, which introduces an operating permits program modeled after water pollution control permits in which all of a source's obligations with respect to its pollutants will be contained in one permit document and under which the source will file periodic reports identifying the extent to which it has complied with those obligations.

- Title VI - Stratospheric Ozone and Global Climate Protection, which builds on requirements currently contained in EPA regulations to phase out the production of substances that deplete the ozone layer.

- Title VII - Provisions Relating to Enforcement, which contain new authorities to issue administrative penalties, field citations and penalties, civil judicial penalties, criminal penalties, administrative subpoenas for compliance data, and compliance schedules.

The sections of the 1990 CAA Amendments which most affect the Dayton Site are Titles III and V.

Title III established a list of 189 chemicals for which emission standards must be set. The USEPA is to develop a list of major source categories (e.g., chemical plants, oil refineries) expected to total about 250. For each source category, EPA will promulgate an emission standard that requires the installation of Maximum Achievable Control Technology (MACT). MACT is generally the technology required to achieve control equal to the best 12% of sources in the category. As a minimum, standards for 41 source categories listed in the Act are to be promulgated within two years, with all others to be issued within 10 years. Existing sources must comply with MACT standards not later than three years after promulgation of the rules. Any source making a voluntary reduction of 90% below 1987 emission levels can receive a six-year extension of the MACT compliance date.

Under some circumstances, MACT may not provide enough health protection. If, after installation of MACT, a significant risk remains, EPA must tighten the standards eight years after initial promulgation of the MACT standard. EPA is required to set "residual risk" standards for pollutants that may cause cancer whenever the risk is greater than 1-in-1,000,000 to the person in the general population most exposed to emissions from a source in the category.

EPA is required to publish a list of approximately 100 extremely hazardous air pollutants and require each owner of a facility that handles one or more of the substances to complete an engineering analysis of the facility to identify possible hazards to public health. The assessment will be made available to the public.

Under Title V for air permits, States must develop operating permit programs within 3 years of enactment. EPA will review these programs for approval based on regulatory guidelines. permits will apply to major sources covered under Title I, as well as sources covered by other titles of the Act. All sources subject to the program must submit permit applications to the State within 1 year of the effective date of the State program. The State must establish a schedule for acting on initial permit applications which assures that at least a third of these submitted applications will be acted upon annually for 3 years.

The State must issue permits for a term of up to 5 years, and must include all CAA requirements applicable to the source. The permit must also include a schedule of compliance and applicable monitoring and reporting requirements. Sources must pay permit fees to cover the costs of the permitting program. EPA may require a permit be reopened for cause, and a permit with a term of 3 or more years must be reopened if new requirements applicable to the source are promulgated.

3.3.2 State Laws

The original Ohio Air Pollution Control Act became effective on December 23, 1971, under Ohio Revised Code (ORC) 3704 - Air Pollution Control and ORC 3706 - Air Quality Development Authority. ORC 3704 legislation is designed to: 1) protect and enhance the quality of the State's resources so as to promote the public health, welfare, and economic vitality of the people of the State; 2) enable the State, through the director of environmental protection, to adopt and maintain a program for the prevention, control, and abatement of air pollution that is consistent with the Federal CAA; and 3) authorize the State to obtain financial assistance and delegation of powers from the Federal government for the purposes of prevention, control, and abatement of air pollution. ORC 3706 legislation creates a board of seven -- five appointees by the governor, the Ohio EPA Director, and the Director of Health -- to raise air quality revenue bonds. Since that time, it has been subject to periodic review and updating. During 1980, the State laws were revised to follow the U.S. EPA ambient air standards.

3.4 AIR POLLUTION CONTROL REGULATIONS

3.4.1 Federal Regulations

The Federal regulations under the CAA are contained in the Code of Federal Regulation, Title 40 (40 CFR), under Parts 50 through 87. The Federal air pollution regulations delegate most of the responsibility for planning and implementation to the states. The USEPA has established guidelines and has divided areas into air quality regions. The Agency has also determined compliance of such regions with the NAAQS for Criteria Pollutants; these standards are discussed below.

National Ambient Air Quality Standards (NAAQS)

The USEPA is charged with establishing the NAAQS and reviewing these standards every five years. Presently, the standards consist of the maximum allowable levels for eight pollutants: suspended particulate matter, respirable (PM₁₀) particulate matter, sulfur dioxide, carbon monoxide, non-methane hydrocarbons, nitrogen dioxide, ozone, and lead. These standards are described in Table 3-1. Primary standards define the level of an air pollutant above which the public health is endangered. Secondary standards define the level of an air pollutant above which the public welfare is endangered due to known or anticipated damage to crops, animals, vegetation and materials.

Prevention of Significant Deterioration (PSD)

The PSD rules apply to major stationary sources and major modifications to sources located in NAAQS attainment areas. Major sources include chemical plants with the potential to emit in a year a significant amount of 14 pollutants (CO, NO_x, SO₂, particulate matter, ozone, lead, asbestos, beryllium, mercury, vinyl chloride, fluorides, sulfuric acid mist, H₂S, and total reduced sulfur compounds) regulated under the CAA. A significant increase is defined as an amount from 0.0004 tons/yr for beryllium to 100 tons/yr for CO. Major modifications include changes in a stationary source (e.g., plant expansion, fuel switches) that will result in a net increase of a regulated pollutant.

New Source Performance Standards (NSPS)

The NSPS regulations issued under Section III of the CAA apply to new, modified or reconstructed sources of air pollution. The relevant standards, applicable to certain specific industries, reflect the degree of specific emission limitation achievable through the application of the best demonstrated technological system of continuous emission reduction, considering the cost and any non-air quality health and environmental impact and energy requirements. A NSPS is applicable to sources as of the date of

**TABLE 3-1.
NATIONAL AMBIENT AIR QUALITY STANDARDS**

Pollutant	Primary Standard	Secondary Standard
Particulate matter as PM ₁₀	150 ug/m ³ 24-hr avg 50 ug/m ³ annual arithmetic mean	150 ug/m ³ 24-hr avg 50 ug/m ³ annual arithmetic mean
Sulfur dioxide	365 ug/m ³ maximum 24-hr concentration not to be exceeded more than once/yr 80 ug/m ³ annual arithmetic mean	1,300 ug/m ³ maximum 3-hr concentration not to be exceeded more than once/yr
Carbon monoxide	10 mg/m ³ (9 ppm) 8-hr concentration not to be exceeded more than once/yr	40 mg/m ³ (35 ppm) 1-hr concentration not to be exceeded more than once/yr
Ozone	235 ug/m ³ (0.12 ppm) 1-hr concentration not to be exceeded more than once/yr	235 ug/m ³ (0.12 ppm) 1-hr concentration not to be exceeded more than once/yr
Nitrogen dioxide	100 ug/m ³ (0.05 ppm) annual arithmetic mean concentration	100 ug/m ³ (0.05 ppm) annual arithmetic mean concentration
Lead	1.5 ug/m ³ maximum arithmetic mean averaged over a calendar quarter	1.5 ug/m ³ maximum arithmetic mean averaged over a calendar quarter

the proposed regulation; therefore, while some of the regulations are still being revised, the requirements of the regulations should be considered in any new construction proposed after the date of the proposed regulation. Federal NSPS regulations under 40 CFR which may be applicable to the Dayton Site can include:

- Subpart Ka -- Standards of Performance for Storage Vessels for Petroleum Liquids
- Subpart Ka -- Standards of Performance for Volatile Organic Liquid Storage Vessels
- Subpart VV -- Standards of Performance for Equipment Leaks of Volatile Organic Compounds in the Synthetic Organic Chemical Manufacturing Industry
- Subpart III -- Standards of Performance for VOC Emissions from SOCM I Air Oxidation Processes
- Subpart NNN -- Standards of Performance for VOC Emissions from SOCM I Distillation Operations
- Subpart RRR -- Standards of Performance for VOC Emissions from SOCM I Reactor Processes (proposed)

Air Toxics

Title III of the 1990 CAA Amendments replaces much of the regulation of hazardous air pollutants under Section 112 of the previous CAA. National Emission Standards for Hazardous Air Pollutants (NESHAPs) have been promulgated under Section 112 for asbestos, inorganic arsenic, beryllium, mercury, coke oven emissions, vinyl chloride, radionuclides, and benzene.

3.4.2 State Regulations

The State regulations that pertain to air quality and emission standards are listed in Table 3-2 together with the corresponding section of the Ohio Administrative Code (OAC).

3.4.3 Local Regulations

There are no local air quality regulations or emission standards in addition to the State and Federal regulations.

TABLE 3-2.
STATE REGULATIONS FOR AIR POLLUTION CONTROL

OAC Regulation No.	Regulation Title/Content
3745-15	General Provisions
3745-16	Stack Height Requirements
3745-17	Particulate Matter Standards
3745-18	Sulfur Dioxide Regulations
3745-19	Open Burning
3745-21	Carbon Monoxide, Photochemically Reactive Materials, Hydrocarbons, and Related Materials Standards
3745-21-07	Control of emissions of organic materials from stationary sources -- includes storage tanks, materials loading facilities, product dryers, and waste gas disposal
3745-21-08	Control of carbon monoxide from stationary sources
3745-21-09	Control of emissions of volatile organic compounds from stationary sources -- includes solvent metal cleaning (O), synthesized pharmaceutical manufacturing facilities (W), leaks from process units that produce organic chemicals (DD), and air oxidation processes that produce organic chemicals (EE)
3745-21-10	Compliance test methods and procedures
3745-23	Nitrogen Oxide Standards
3745-25	Emergency Episode Standards
3745-45	Permit Fees
3745-47	Procedural Rules
3745-49	Miscellaneous Rules (public records)

3.5 REGIONAL AIR QUALITY

3.5.1 Ambient Air Standards

The ambient air in the six county area monitored by RAPCA has been improving since the initiation of the NAAQS regulations. The current status, with respect to the ambient air standards, in the area surrounding the Dayton Site is listed in 40 CFR 81.34 and summarized in Table 3-3.

3.5.2 Air Monitoring Stations

Air quality is monitored by twenty-six sampling stations located within the RAPCA counties. Of this number, 15 monitoring stations are located within Montgomery County. These sites are in compliance with the National Air Monitoring Stations (NAMS) guidelines, which are a subset of the State and Local Air Monitoring Stations (SLAMS), as outlined in 40 CFR 58. The SLAMS make up the ambient air quality monitoring network required in each state's SIP (State Implementation Plan). The NAMS are considered critical parts of the monitoring network of the National Aerometric Data Bank, and data from these go into the SAROAD (Storage and Retrieval of Aerometric Data) data bank system.

3.6 STATE AIR PERMIT PROGRAM

The current State air permitting program for stationary sources consists of permits-to-install (PTI) for new or modified sources, permits-to-operate (PTO) for existing sources, and registration status for minor sources. As regulations under the 1990 CAA Amendments, Title V - Air Permits, become promulgated, the State will have to modify or supplant existing regulations for permitting air pollution sources.

3.6.1 Registration Status

The six gas-fired boilers used for steam production and space heating at the Dayton Site are on registration status with the RAPCA office. Eight small liquid storage tanks which are part of the Bronco® process are on registration status. Also, at Building 20 the welding and lab hood vents, the walk-in cooler, storage hot room #1, and storage tank T-200 are on registration status. These units do not require an operating air permit (PTO) under the present regulations.

TABLE 3-3.
SUMMARY OF REGIONAL AMBIENT AIR QUALITY STATUS

Air Pollutant	Status	Trends
Particulate Matter	Non-Attainment	City of Dayton only; rest of RAPCA area in attainment with primary standard
Sulfur Dioxide	Attainment	
Carbon Monoxide	Attainment	
Nitrogen Dioxide	Attainment	
Ozone	Non-attainment	Most of RAPCA area is not meeting primary standard
Lead	Attainment	

3.6.2 Permits-to-Install

Any new or modified air contaminant source is required to have a PTI before construction can be initiated, as described in OAC 3745-31. "Modification" means any physical change in or change in the method of operation that 1) increases the allowable emissions, 2) results in the emission of any type of air contaminant not previously emitted, or 3) results in the relocation of the source to a new premises. RAPCA or Ohio EPA then decides from a PTI application whether or not the proposed source will need a full PTO application or can be placed on registration status.

3.6.3 Permits-to-Operate

PTOs are required by the Ohio EPA under OAC 3745-35 for the operation of an air contaminant source, and typically are issued for a three-year term. At the end of a PTO's term, a new PTO application must be filed for continued operation. Table 3-4 presents a summary of the Dayton Site's status regarding air permits. A source that Ohio EPA decides does not require a permit (emissions are too low) is placed on registration status at Ohio EPA and the emissions are made part of the state inventory. No permit issuance fee is required and the source does not need to be renewed every three years.

**TABLE 3-4.
SUMMARY OF DAYTON PLANT AIR PERMITS**

Ohio EPA Source #	Process or Equipment	PTI No.	PTO No.
P003	Resins manufacturing	08-1563 9/19/88	Issued 10/25/91
P004	Tank Truck Storage and Unloading	08-1563 9/19/88	Issued 7/07/89
P005	Drumming Operation of Resins Manufacturing	08-1516 8/24/88	Issued 7/07/89
P006	Multi-Purpose Pilot and Interim Production Plant (4) Reactors	08-1516 8/24/88	Issued 10/25/91
P007	Unit Operations Plant Two (2) Reactors	08-1516 8/24/88	Issued 10/25/91
P008	Pharmaceutical Spray Dryer	08-1516 8/24/88	Issued 10/25/91
P009	Centrifuge with Overflow and Neutralization Tanks	08-1703 1/31/90	Issued 10/25/91
P010	Bronco® Processing and Formulation -- 11 Reactors/Tanks, Hot Room, Bottling Machine	08-1703 1/31/90	Issued 10/25/91
P011	Storage and Melting Hot Room, Steam-Heated	08-1703 1/31/90	Regist # 0857040727 10/25/91
P012	Oven Room -- 3 Vacuum Tray Dryers, 2 ATM Tray Dryers, & Assorted Receivers	08-1703 1/31/90	Issued 10/25/91
P013	3J Reaction System -- 6 Reactor Pilot Plant	08-1703 1/31/90	Issued 10/25/91
P014	MTX/N137/ICRF Reaction System -- 11 Reactors and Drying Ovens	08-1703 1/31/90	Issued 10/25/91
P015	3G Reaction System -- One Reactor with Condenser	08-1703 1-31-90	Issued 10/25/91

TABLE 3-4.
SUMMARY OF DAYTON PLANT AIR PERMITS
(Continued)

Ohio EPA Source #	Process or Equipment	PTI No.	PTO No.
P016	3M Reaction System -- One Reactor with Condenser	08-1703 1/31/90	Issued 10/25/91
P017	3L Reaction System -- Six (6) Reactors	08-1703 1/31/90	Issued 10/25/91
P018	Twincone	08-1703 1/31/90	4/18/91 Notify that source was removed
P019	Bldg. 20 Laboratory and Welding Hoods -- 14 Lab Hoods, 1 Instrument Exhaust, 1 Welding Hood	08-1703 1/31/90	Regist # 0857040727 10/25/91
P020	Walk-In Cooler	08-1703 1/31/90	Regist # 0857040727 10/25/91
P021	Storage Hot Room #1	08-2087 8/22/90	Regist # 0857040727 10/25/91
T001	Bronco® Tank T-65	08-1516 3/28/88	Regist # 0857040727 6/3/88

TABLE 3-4.
SUMMARY OF DAYTON PLANT AIR PERMITS
(Continued)

Ohio EPA Source #	Process or Equipment	PTI No.	PTO No.
T002	Bronco® Tank T-33	08-1516 3/28/88	Regist # 0857040727 6/3/88
T003	Bronco® Tank T-34	08-1516 3/28/88	Regist # 0857040727 6/3/88
T004	Bronco® Tank T-45	08-1516 3/28/88	Regist # 0857040727 6/3/88
T005	Bronco® Tank T-66	08-1516 8/24/88	Regist # 0857040727 6/23/89
T006	Bronco® Tank T-69	08-1516 8/24/88	Regist # 0857040727 6/23/89
T007	Bronco® Tank T-141	08-1516 8/24/88	Regist # 0857040727 6/23/89
T008	Bronco® Tank T-164	08-1516 8/24/88	Regist # 0857040727 6/23/89
T009	Storage Tank T-200 6,000 gallons	08-1703 1/31/90	Regist # 0857040727 10/25/91

3.6.4 Other Emission Sources

Other emission sources exist at the Dayton Site that are not registered nor require an operating permit. These sources include laboratory hoods and area ventilation systems. It is not expected that any of these sources will be required to be listed with the agencies; normal emissions from the hoods are of such low levels that no air emission problems are expected from them.

3.7 EMISSION MONITORING

The PTI's received for source no. P003 and for sources nos. P009, P010, P012, P013, P014, P015, P016, P017 and P018 require performance testing for fugitive emission leaks from process units under OAC 3745-21-09(DD). The test method specified is EPA Method 21 for determination of VOC leaks.

Air emissions screening analysis conducted under Monsanto Environmental Protection Guideline No. 1 may result in a Phase II emission monitoring project.

3.8 ODORS

The air pollution complaints filed earlier (pre-1986) with RAPCA against the Dayton Site have stemmed from odors and visible emissions from the Production Unit. The odors were mostly due to handling of various acrylate compounds. The Dayton Site will continue to handle potentially odor-causing materials such as methyl mercaptan in the 15100 process and compounds in resin manufacturing.

3.9 ADVANTAGES/DISADVANTAGES OF THE SITE - AIR

The Dayton Site is located in a 20-acre plot on Nicholas Road approximately one-fourth mile west of the intersection of Broadway Street and Nicholas Road. The site is located in an area that is zoned "heavy industrial," and, as such, no zoning variances would be required for additional construction at the site. The site is surrounded on three sides by industrial businesses and on the fourth side by the County Animal Shelter.

The site is bordered by other industry rather than residential properties. Control of odors will tend to prevent complaints from adjoining properties. Although a larger site would provide additional buffer zones, the Dayton Site still has room for expansion, if emissions from any new processes are controlled to maintain acceptably low concentration levels at the fence line.

One disadvantage is that the site is located in a non-attainment area for particulate matter and ozone, which may hamper production expansion or some new processes.

3.10 POTENTIAL CONCERNS

It is likely that additional emission controls and mandatory monitoring will be imposed on the Dayton Site, particularly in light of the requirements of the 1990 CAA Amendments in the areas of Title III Air Toxics and Title V Permitting. Rapid process changeovers will become more difficult under the new permitting regulations anticipated in 2-3 years. Because permit fees can be collected under the new authority of the CAA to support costs of regulatory program implementation, some process PTO's may be split into multiple PTO's (permitting by vent rather than process) with concomitantly higher costs and longer permit processing times.

3.11 ACTION PLAN - AIR

- Conduct and implement the Monsanto Worldwide Guideline No. 1 emission control screening analyses of each air pollutant, point sources, and area/volume sources.
- Continue to provide sufficient lead time in long-term projects in order to design the process, estimate controlled and uncontrolled emissions, define the control strategy, file the application to install and obtain regulatory approval.
- Meet monitoring requirements of new air permits, as required.

4. WATER QUALITY CONTROL

4.1 REGULATORY STRUCTURES

Federal

U.S. Environmental Protection Agency
Region V
230 South Dearborn Street
Chicago, Illinois 60604
312/353-2000

Contact: Valdas V. Adamkus, Regional Administrator

State

Ohio Environmental Protection Agency
1800 Water Mark Drive
Columbus, Ohio 43266-0149
614/644-2270

Contact: Chief, Permits and Compliance Programs Division

District

Ohio Environmental Protection Agency
Southwest District Office
7 East Fourth Street
Dayton, Ohio 45402
513/461-4670

Local

City of Dayton
Wastewater Treatment Division
Guthrie Road
Dayton, Ohio 45418
513/268-9511

Contact: Lyle Merta, Pretreatment Coordinator

4.2 REGULATORY RELATIONSHIPS

Because the Dayton Plant discharges water both directly (storm water and cooling water) to the Great Miami River and indirectly (sewer) to this river via the City of Dayton Wastewater Treatment Plant, contact with regulatory agencies has been both on a local and State basis. Ohio EPA has the authority to administer the Federal National Pollutant Discharge Elimination System (NPDES) permit program. Our direct discharge is regulated by this program, and contact with the State has concentrated on permit negotiations and the reporting of currently required monitoring data. This contact has been established with both the Columbus Ohio EPA office and the Southwest District Office. Local contact with the City of Dayton has been through the Wastewater Treatment Plant. Relations are considered to be excellent with both authorities.

4.3 WATER POLLUTION CONTROL LAWS

4.3.1 Federal Laws

The principal law governing pollution in the Nation's waterways is the Federal Water Pollution Control Act, or referred to as the Clean Water Act (CWA). Originally enacted in 1948 (P.L. 80-845), it was totally revised by amendments in 1972 (P.L. 92-500) that gave the Act its current shape and spelled out ambitious programs for water quality improvement that are now being put in place by industries and municipalities. Congress made certain fine-tuning amendments in 1977 (P.L. 95-217); revised portions of the law in 1981 (P.L. 97-117); and enacted further amendments in 1987 (P.L. 100-4).

The CWA is broad in scope and has the objective of restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters. Two goals were established: zero discharge of pollutants by 1985 and, as an interim goal and where possible, water quality that is both "fishable" and "swimmable" by mid-1983. While those dates have now passed, the goals remain and efforts to attain the goals continue.

The CWA consists of two major parts, one being the Title II and Title VI provisions which authorize Federal financial assistance for municipal sewage treatment plant construction. The other major part is regulatory requirements, found throughout the CWA, that apply to industrial and municipal dischargers.

The CWA has been termed a technology-forcing statute because of the rigorous demands placed on those who are regulated by it to achieve higher and higher levels of pollution abatement. It also has a

water-quality forcing aspect to it with increased requirements for bioassays in permits and other requirements beyond BAT. Industries were given until July 1977 to install "best practicable control technology" (BPT) to clean up waste discharges. Municipal wastewater treatment plants were required to meet an equivalent goal, termed "secondary treatment," by that date. The CWA required greater pollutant cleanup by no later than March 1989, generally demanding use by industry of "best available technology" (BAT) that is economically achievable, with failure leading to enforcement actions.

Under the CWA, Federal jurisdiction is broad, particularly regarding establishment of national standards or effluent limitations. The EPA issues regulations containing the BPT or BAT effluent standards applicable to categories of industrial sources, such as organic chemical, pesticide, or pharmaceutical manufacturing. Certain responsibilities are delegated to the States, and the CWA, like other environmental laws, embodies a philosophy of Federal-State partnership in which the National Government sets the agenda and standards for pollution abatement and the States carry out day-to-day activities of implementation and enforcement. Delegated responsibilities under the CWA include authority for qualified States to issue discharge permits to industries and municipalities.

Prior to the 1987 amendments, programs in the CWA were primarily directed at point source pollution. The 1987 amendments authorized measures to address non-point source pollution by directing States to develop and implement non-point pollution management programs. States are encouraged to undertake groundwater protection activities as part of their overall non-point pollution control efforts. Also strengthened in the 1987 amendments were requirements on industries which discharge to a POTW for pretreatment of effluents.

4.3.2 State Laws

The Ohio Water Pollution Control Act under Ohio Revised Code (ORC) 6111 authorizes the Director of Environmental Protection to: (1) prevent, control and abate new or existing pollution of State waters, (2) issue, revoke, modify or deny permits for the discharge of industrial wastes into State waters and for the installation or modification of disposal systems, and to set terms and conditions of permits, and (3) complete other water pollution control activities.

Other water-related laws include the Safe Drinking Water Act (ORC 6109), Regional Water and Sewer Districts (ORC 6119), and the Ohio Water Development Authority Act (ORC 6121). ORC 6121 creates the

Ohio water development authority which contributes to generally managing the State water resources, preventing the pollution of such resources, promoting the beneficial use of State waters, assisting in the financing of wastewater facilities, and assisting and cooperating with government agencies in implementing State public policy.

4.4 WATER POLLUTION CONTROL REGULATIONS

4.4.1 Federal Regulations

The Federal regulations promulgated under the CWA are contained in 40 CFR Parts 104-140 and Parts 401-471. All discharges into the nation's waters are unlawful unless specifically authorized by a permit. Thus, more than 55,000 existing and new industrial and municipal dischargers must obtain permits from EPA or qualified States under the CWA's National Pollutant Discharge Elimination System (NPDES) program (40 CFR 122).

Regulations which affect the Dayton Site include the General Pretreatment Regulations, promulgated in June 1978, to control the introduction of industrial wastes to a Publicly Owned Treatment Works (POTW). Categorical pretreatment effluent limitations for indirect discharges are spelled out for industrial manufacturing processes such as pesticides and organic chemicals, plastics and synthetic fibers (OCPSF). Pretreatment regulations are contained in 40 CFR 403. In February 1987, EPA provided final definitions for the terms "interference" and "pass through," which, in effect, can hold industrial dischargers liable for POTW noncompliance with the POTW's NPDES limits. In July 1990, EPA amended the pretreatment regulations to cover discharge of toxic pollutants and hazardous wastes to POTWs by imposing important notification requirements and new discharge prohibitions that may require some facilities to identify and implement alternative wastewater treatment strategies. This new rule amends the general pretreatment prohibitions, but not the separately promulgated categorical standards currently applicable to dischargers to POTWs.

Regulations on storm water discharges from municipalities and industrial activity became effective in December 1990. These rules establish permitting standards and are contained in 40 CFR 122 under NPDES standards. Industrial facilities must submit an NPDES permit application for stormwater discharges to either the nation's waters or to a municipal stormwater system.

4.4.2 State Regulations

State regulations require that an Ohio NPDES permit be obtained in order to discharge any pollutant to State waters from a point source. All discharges authorized under the NPDES permit must be consistent with the terms and conditions of the permit. The Director specifies in the permit the maximum levels of pollutants that may be discharged to insure compliance with the applicable water quality standards, effluent limitations, and other considerations. Because the State of Ohio is qualified to implement NPDES permitting authority, all Federal laws and regulations pertaining to water discharges are administered by the State.

Ohio regulations on discharges to a POTW are contained in OAC 3745-3 and as part of the Ohio categorical pretreatment program under Chapter 6111 of the ORC. The permit program for discharges to a POTW is contained in OAC 3745-36. Any local laws, regulations and ordinances affecting a POTW and an industrial discharger are not superseded by 3745-36 as long as the local requirements are as stringent or more stringent than the State's pretreatment rules.

Ohio regulations which may affect the Dayton Site are presented in Table 4-1. Pretreatment regulations for the industrial categories of pesticides and OCPSF have been issued.

4.4.3 Local Regulations

Wastewater regulations administered on a local basis are the Federal and State pretreatment standards, as well as building and sewer ordinances. A sewer ordinance exists under the jurisdiction of the City of Dayton Wastewater Division for the Dayton Site, which sets a temperature limit of 140°F, pH range limit of 6.0 to 10.0 S.U., and a restriction on discharging any material to the sewer that is flammable, ignitable or corrosive. The ordinance allows the City to set specific limits for pollutants as necessary to protect the treatment system and to meet the POTW's NPDES limitations. So far, the Dayton Plant has not had any of these limits imposed.

The Dayton Plant was issued an Administrative Order from the City of Dayton on August 31, 1991. These orders reiterate the OCPSF pretreatment regulations and specific notification and sampling requirements for the LSE Resins process. These orders also reiterate the city supplemental limits on metals and the general requirements of the city ordinance.

TABLE 4-1.
SUMMARY OF STATE REGULATIONS APPLICABLE TO SITE

OAC Regulation No.	Regulation Title/Content
3745-1-21	Water Quality Standards for the Great Miami River Basin
3745-3	Industrial Discharges to Publicly Owned Treatment Works (Pretreatment Rules)
3745-3-03	POTW Pretreatment Standards
3745-3-04	Prohibited Discharges
3745-3-05	Notification of Slug Loading
3745-3-06	Reporting Requirements Industrial Users
3745-3-09	General Requirements Governing Application of Ohio Categorical Pretreatment Standards
3745-3-16	Inorganic Chemical Manufacturing
3745-3-20	Pharmaceutical Manufacturing; Categorical Pretreatment Standards
3745-36	Permit Program Regulating Discharge of Nondomestic Wastewater into a POTW
3745-36-03	Permit Required
3745-36-04	Permit Applications
3745-36-05	Authorization to Discharge by a POTW
3745-36-06	Permit-By-Rule
3745-36-07	Criteria for Issuing Permits
3745-36-08	Modification of Permit
3745-36-09	Applicability of Rules of Procedure
3745-36-10	Transfer of Permits
3745-36-11	Revocation of Permits

The pretreatment standards for pesticides were issued in October 1985, which required the Dayton Plant to submit a Baseline Monitoring Report to the City of Dayton Wastewater Division along with a schedule of compliance. The EPA then rescinded the pesticide pretreatment standards effective July 1986. Revised standards are anticipated to be issued in 1992.

4.5 APPLICABLE PERMITS

The only presently applicable permit in-hand related to water discharges from the Dayton Site is an Ohio NPDES permit for the discharge of noncontact cooling water and stormwater from a point source to the Great Miami River. This permit requires monitoring and reporting of the following parameters at the stated frequencies when cooling water is being used:

flow	weekly (24-hr total)
temperature	weekly maximum
residual chlorine	weekly grab
pH	weekly grab

Special permission must be obtained from the Ohio EPA to use cooling water treatment additives. Information was provided to Ohio EPA at their request on deposit inhibitors that are added to the cooling water. Reports must be provided to the Ohio EPA District Office of any proposed facility expansions, production increases, or process modifications that will result in new, different or increased discharges of pollutants.

The Dayton Site NPDES permit for noncontact cooling water/stormwater discharge is under renewal and has been re-filed to the Ohio EPA, and a draft permit has been received. This draft includes proposals for chlorides and oil/grease monitoring on a monthly basis, as well as monitoring of stormwater event flow episodes.

The December 1990 stormwater regulations will require a permit application for outfalls to be submitted by October 1, 1992.

4.6 LOCAL SEWER AND WASTEWATER TREATMENT SYSTEM

The Dayton Site discharges Production Unit effluent and domestic sewage to the City of Dayton's Guthrie Road Publicly-Owned Treatment Works (POTW). The Guthrie Road POTW is a trickling filter biological system utilizing pre-aeration with primary and secondary clarification, chlorination, and anaerobic sludge digestion. The plant treats primarily domestic waste and several high-organic industrial wastes. Charges for these waste dischargers are currently based on their daily BOD loading to the sewer. In addition, the POTW handles wastes from numerous plating operations that exist in the area. This results in high heavy metal concentrations in the sludge that is generated and digested. Excellent operation of the digestors has allowed adequate digestion to occur in spite of above normal metal concentrations.

The Guthrie Road POTW operates under an NPDES permit issued effective July 1987 with expiration in July 1992 to discharge to the Great Miami River. The permit has effluent discharge limitations and/or monitoring requirements for the following: temperature, suspended solids, oil and grease, ammonia, fecal coliform, flow, CBOD₅, COD, nitrite, nitrate, Kjeldahl TKN, total cyanide, cadmium, dissolved hexavalent chromium, total chromium, copper, lead, nickel, phenols, di-N-octyl phthalate, bis(2-ethylhexyl)phthalate, di-N-butyl phthalate, and mercury. The permit has a schedule of compliance with numerous items to be completed, and requires the POTW conduct a pretreatment program complete with industrial notifications, compliance schedule impositions, inventories, publications of violations and enforcement.

The Guthrie Road POTW must conduct a receiving stream upstream and downstream monitoring program for most of the parameters listed in the effluent monitoring program. The upstream monitoring station is located at the Broadway Street Bridge, very near the Dayton Plant's NPDES cooling water outfall. Of note to the Dayton Plant is the POTW's permit requirement that it conduct an influent monitoring program (daily, weekly or monthly depending on parameter) for the following: temperature, pH, suspended solids, ammonia, total cyanide, cadmium, dissolved hexavalent chromium, total chromium, copper, lead, nickel, zinc, phenols, mercury and CBOD₅.

The treatment sludge is handled by a contractor who dewateres it and then uses it for farm application. Monitoring requirements are monthly for ammonia, Kjeldahl nitrogen, cadmium, copper, lead, nickel, mercury and zinc.



4.7 DAYTON SITE SANITARY AND COOLING WATER FLOWS

4.7.1 Sanitary/Chemical Effluent Flows

Sanitary wastewater from Building 1 is routed from both a 6-inch (west side of building) and a 12-inch (east side of building) sewer line that leaves the site leading to the Guthrie Road POTW. Chemical and sanitary wastewater from the Production Unit in Building 20 is routed through a separate 10-inch line, as shown in Figure 4-1. In addition, tanker truck loading and unloading areas surrounding Building 20 are equipped with catch-basins to route stormwater run-off and any potential chemical spillage into this sewer line. A 45,000-gallon circular catch basin is plumbed into the sewer line, from which any spill occurring in the Building 20 area can be diverted to for retention/neutralization before release to the sewer.

4.7.2 Noncontact Cooling Water Flows

The noncontact cooling water discharge sewer (NPDES permitted outfall) is a 12-inch line connected off-site to the City of Dayton stormwater sewer. This stormwater line subsequently discharges to the Great Miami River. The line routes not only the noncontact cooling water but also stormwater from the roof of Building 1. Flow from this line due to cooling water, which results from the air conditioning system, is estimated to be 1.08 MGD maximum when air conditioning is needed. The water for the air conditioning system originates from an on-site production well located east of Building 12. The water is treated with chlorine for biocidal purposes. Sampling and monitoring data on the noncontact cooling water discharge are kept on file by the Environmental Department.

4.7.3 Stormwater Flows

Stormwater from the Dayton Site is collected throughout the site by stormwater drains. The direction of runoff from the Site, along with the location of sewer drains is shown in Figure 4-2. Small, paved runoff systems and storm drainage are installed around loading and unloading areas surrounding Buildings 21, 14, 12, 19 and 20. These drainage systems are connected to the sanitary sewer and are part of the Site's spill control system. All other storm drainage flows to drainage tiles or is routed to the City storm sewer, which then flows to the Great Miami River.

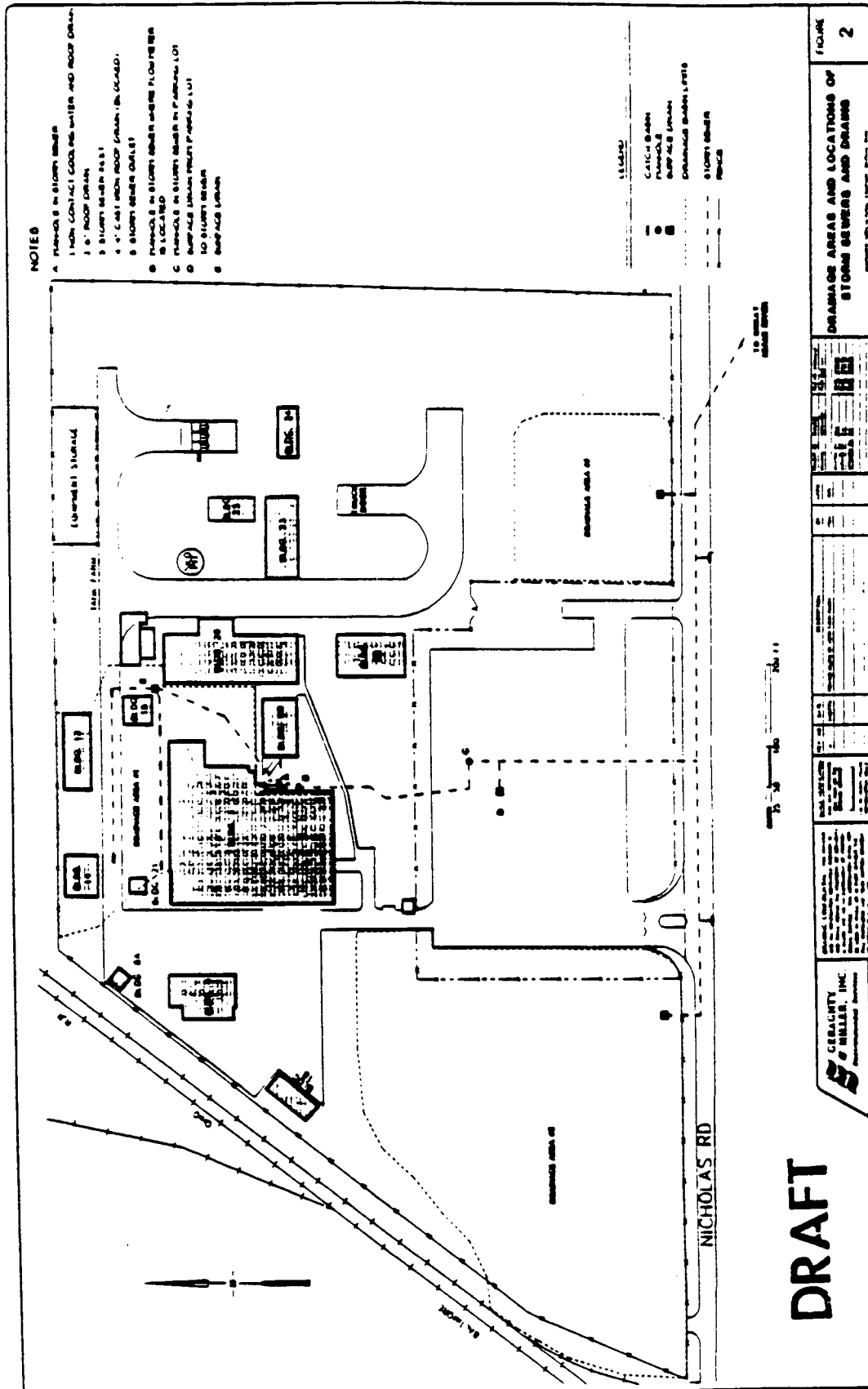


Figure 4-2. Site Map of Stormwater Drainage Drains.

4.8 ADVANTAGES/DISADVANTAGES OF THE SITE - WATER

The Dayton Site has a very reliable and high-quality source of City-treated influent water. The Site production wells also produce more than sufficient quantities of fresh water for cooling.

During 1991, the sanitary/chemical sewer trenches servicing Building 20 were replaced and fitted with a chemical resistant liner. A new trench was installed around Building 20 to catch and divert potential spills to the catch basin. Building 19 was also equipped with a trench drain tied into this system. These upgrades will improve the long-term water discharge handling capabilities of the Site, and will protect against regulations involving corrective actions from contamination due to sewer line leakage.

4.9 POTENTIAL CONCERNS

Pretreatment facilities may be needed for further expansion or introduction of production processes at the Site. Pretreatment standards will apply to the following manufacturing categories which could exist at the Site:

- pesticides (herbicide production)
- organic chemicals, plastics and synthetic fibers (resins processes, organic chemicals manufacturing)
- pharmaceutical manufacturing (methotrexate)
- inorganic chemicals.

The present spill retention catch basin is a major advantage with respect to spill control and slug loading, but probably would not allow sufficient flexibility as a continuously operating pretreatment system. Small packaged wastewater treatment systems may have to be purchased and installed, perhaps separately by process, to meet the anticipated discharge limits.

4.10 ACTION PLAN - WATER

- Continue to follow Federal and local developments of regulatory pretreatment standards and regulations.
- Develop specific information necessary to identify wastewater control options of existing and planned production processes to ensure compliance with limitations imposed by pretreatment regulations.

- Conduct a substance-by-substance review of significantly reported SARA 313 releases (for both direct and indirect discharges) for those substances not addressed by limitations in permits or other enforceable instruments.
- Define needs for complying with stormwater regulations, reporting, and monitoring.

5. WATER SUPPLY QUALITY

5.1 REGULATORY STRUCTURES

Local

City of Dayton Water Department
321 Monument Avenue
Dayton, Ohio 45402
Director's Office 513/443-3725

5.2 INFLUENT WATER SUPPLY

The Dayton Site receives all of its potable water from the City of Dayton. The City's supply comes from groundwater sources and can be characterized as extremely hard in nature. The City softens the water with lime before distribution.

The only other source of fresh water is two on-site production wells, shown in Figure 5-1 as the North and South wells, one of which supplies cooling water for the Site air conditioning system. This water is the source of water discharged via the storm sewer to the Great Miami River. This discharge is the present NPDES permitted discharge. The production Unit, in general, uses city water makeup in a recycled system for process cooling needs.

Water wells are regulated by Ohio EPA under OAC 3745-9, which covers installation and construction of new wells, maintenance and modification, and abandonment.

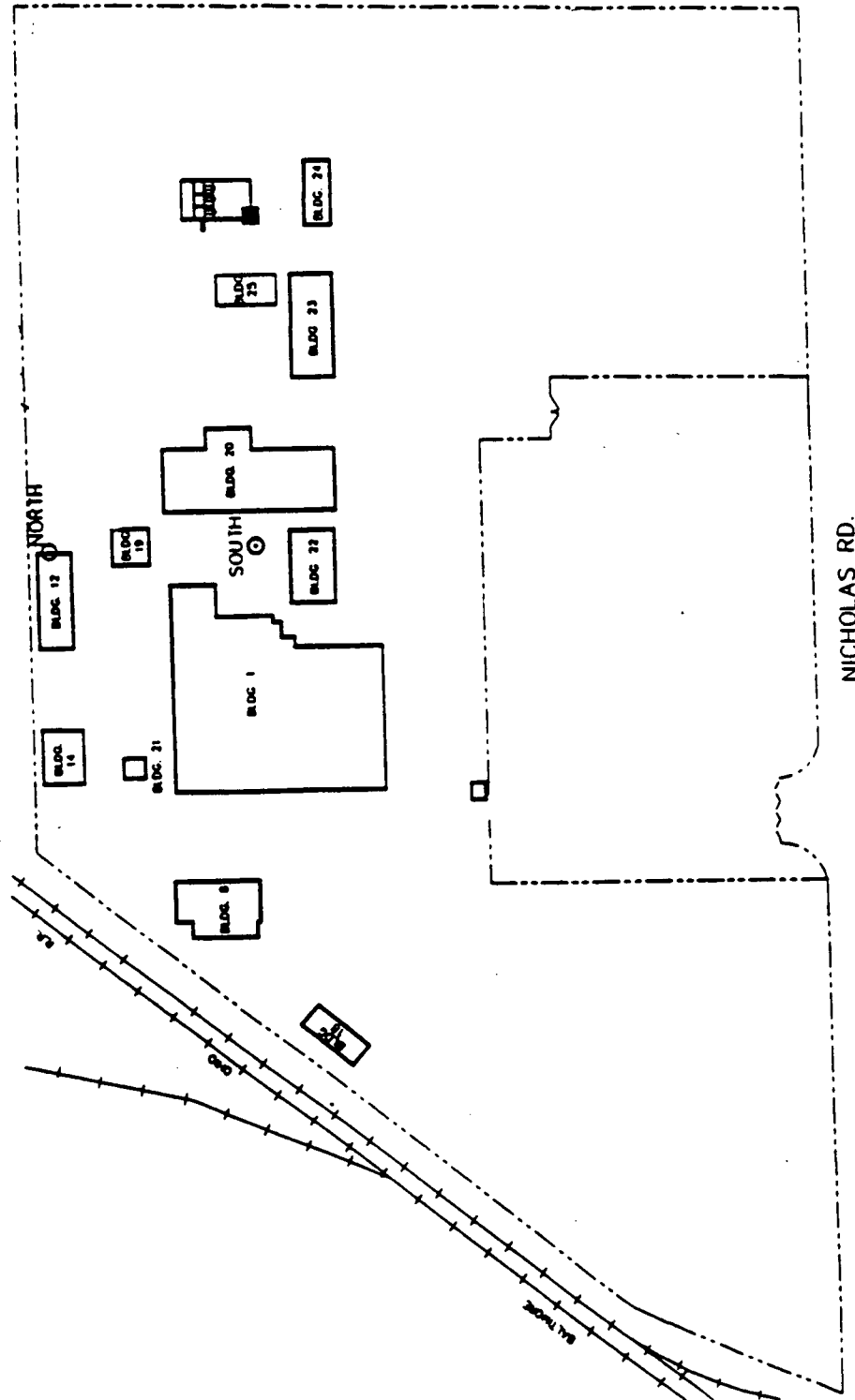


Figure 5-1. Location of Dayton Site Production Wells.

6. GROUNDWATER PROTECTION

6.1 REGULATORY STRUCTURES

Federal

U.S. Environmental Protection Agency
Region V
230 South Dearborn Street
Chicago, Illinois 60604
(312) 886-7579

Basil G. Constantelos, Director
Waste Management Division

State

Ohio Environmental Protection Agency
P.O. Box 1049
361 East Broad Street
Columbus, Ohio 43216
(614) 466-7220

Linda Welch, Chief
Division of Solid and Hazardous Waste Management

District

Ohio Environmental Protection Agency
Southwest District Office
7 East Fourth Street
Dayton, Ohio 45402
(513) 461-6357

Tom Winston, Chief
Ohio EPA Southwest District Office

6.2 REGULATORY RELATIONSHIPS

Currently, no regulatory relationship exists for groundwater protection; the Dayton Plant's groundwater monitoring program has been voluntarily conducted as part of Monsanto Company's Worldwide Environmental Protection Guideline program. However, because the Site has a RCRA Part B permit and has disclosed the existence of SWMUs, a RCRA corrective action remedial feasibility assessment (RFA) will need to be conducted to respond to potential groundwater contamination from past disposal practices. At this time a regulatory relationship will be established.

6.3 GROUNDWATER PROTECTION LAWS

6.3.1 Federal Laws and Regulations

There are no specific Federal laws devoted to groundwater protection in the sense that there are laws for other environmental media such as air, surface water, solid and hazardous waste, and workplace environment. The Safe Water Drinking Act (P.L. 93-523) enacted in December 1974 and last amended in June 1986 (P.L. 99-339) is the basis for protecting public drinking water systems from harmful contaminants. Basically, the Act directs EPA to develop: (1) national primary drinking water regulations that incorporate maximum contaminant levels or treatment techniques; (2) underground injection well control regulations to protect underground sources of drinking water; and (3) groundwater protection grant programs for the administration of sole source aquifer demonstration projects and for wellhead protection area programs.

The Resource Conservation and Recovery Act (RCRA) of 1976 (P.L. 94-580), as amended by the Hazardous and Solid Waste Amendments of 1984 (P.L. 98-616), requires groundwater monitoring and protection programs for permitted land disposal facilities such as landfills and surface impoundments. Other permitted RCRA facilities engaged in waste treatment and/or storage typically do not have groundwater monitoring programs imposed on them. However, all permitted facilities must conduct an investigation of any current or former solid waste management units (SWMUs) which may be releasing hazardous wastes or hazardous constituents, with initiation of a corrective action program if a release is discovered. These SWMU investigations most often involve groundwater monitoring to determine the presence or extent of a release.

The Superfund hazardous substance cleanup program was created by the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA, P.L. 96-510). It was enlarged and renewed by the Superfund Amendments and Reauthorization Act of 1986 (SARA, P.L. 99-499). Superfund authorizes the Federal government

to respond to spills and other releases (or threatened releases) of hazardous substances, as well as to leaking hazardous waste dumps. For facilities that may have a past disposal area or SWMU that do not have a RCRA permit, Superfund authority can be applied to the site to initiate investigations and, if warranted, cleanup.

Last, the 1987 Clean Water Act Amendments (P.L. 100-4) encourages states to under take groundwater protection activities as part of their overall non-point pollution control efforts.

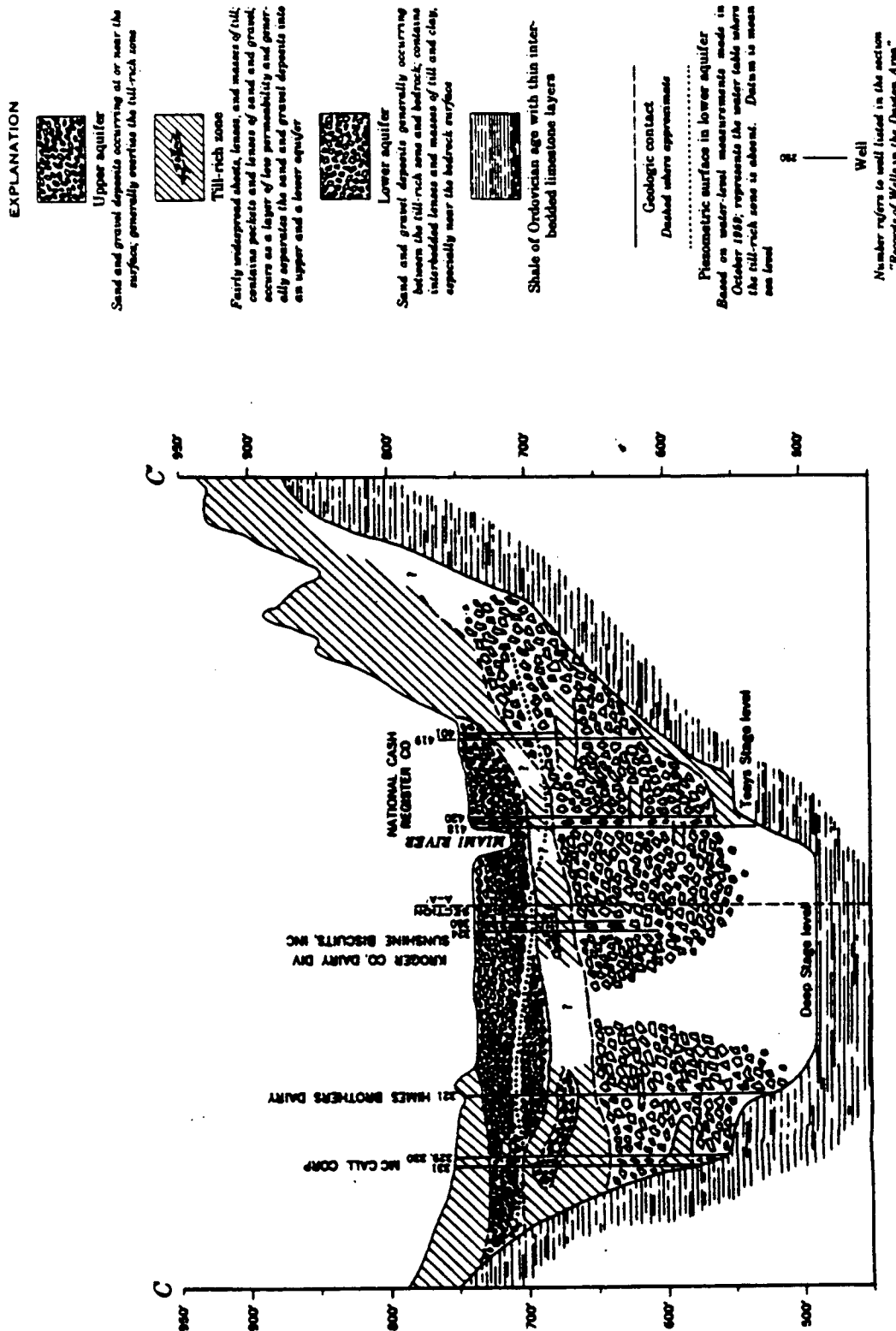
6.3.2 State Laws and Regulations

Groundwater protection by the State of Ohio is embodied in the same types of laws and regulations which empower the State to conduct Federal environmental programs. These include ORC 3745 for Solid Waste Disposal, ORC 6123 for Solid Waste Treatment Facilities, ORC 3751 for Hazardous Substances, ORC 6119 for Regional Water and Sewer Districts, ORC 6121 for Water Development Authority, ORC 6109 for Safe Drinking Water, and ORC 6111 for Water Pollution Control.

6.4 DAYTON AREA GEOLOGY AND HYDROLOGY

Streams draining western Ohio in the preglacial era had formed a relatively flat surface prior to a small uplift that caused deep trenching of the valleys. Dayton is located at what once was the convergence point for tributary streams of a preglacial river. Early glaciers dammed the river and changed its flow direction. Converging tributaries formed deep valley entrenchments and filled the valleys with outwash (sand and gravel) and till (mostly silt, sand and clay). A representative cross section of the Miami River valley is shown in Figure 6-1.

In some parts of Dayton, well-defined till layers (impermeable clay) buried by 30 to 60 feet of sand and gravel extend across the major valleys and separate the glacial deposits into two or more distinct aquifers. The upper aquifer is similar to a surface reservoir and the water table (upper surface) is analogous to the water surface in the reservoir. In the lower (artesian) aquifer, no true water table exists; most wells in Dayton draw from the lower aquifer. The upper aquifer receives water recharge by induced stream infiltration, rainfall, drainage from valley walls, and artificially induced infiltration. The lower aquifer receives water recharge by well pumpage, induced infiltration from the upper aquifer, drainage from valley walls, and induced stream infiltration.



**Figure 6-1. Generalized East-West Trending Cross Section Through the Miami River Valley
in the Vicinity of the Monsanto-Dayton Site.**

6.5 DAYTON SITE GROUNDWATER PROGRAM

6.5.1 Dayton Site Geology and Hydrology

The Dayton Site is included in the west district of well records and logs for Dayton, Ohio. The 1966 list of wells in this district, well logs for selected wells, and data from the Moraine district indicate that the till layer separating the aquifer is discontinuous in the Dayton Plant property area.

Results of groundwater analysis in the late 1950s for various wells in the Dayton area showed that calcium and bicarbonate are the most prevalent constituents and cause an expectedly high water hardness. Analysis of three well water samples completed for the Delco-Moraine Division of GM in 1977 were in good agreement with the 1950s results.

The Dayton Plant overlays a two-aquifer geologic structure which is 200 to 300 feet deep. The upper aquifer is unconfined; a free standing water table is present at depths of about 30 feet and extends to depths of 60 to 70 feet. It resides in a highly permeable layer of sand and gravel (permeability of 25 ft/day), which across the entire site is overlain by less permeable fill dirt ranging in thickness from a few inches at the east boundary to as much as 30 feet at the Site's west boundary.

The deep aquifer is confined (its piezometric surface is at depths of about 30 to 35 feet) and is 150 to 200 feet thick. Above, it is separated from the upper aquifer by a continuous layer of clay till which has low permeability and is 3 to 10 feet thick at depths of 55-75 feet. This clay layer is possibly more permeable at some points, specifically, near the center of the plant. Below, it is underlain by highly impermeable shale and limestone bedrock. The deep aquifer resides in a highly permeable sand and gravel (permeability of 100 ft/day).

Flow in the upper aquifer is north to south toward the Great Miami River, during both production well pumping and non-pumping periods. Flow in the lower aquifer is east to southeast during non-pumping periods and inward toward the production well during pumping periods. Typical upper aquifer flow velocity is 100 feet per year. Typical deep aquifer velocity is 300 feet per year. Water levels at the Dayton Site have increased through time; and hydraulic gradients in the upper and lower aquifer have lessened through time.

6.5.2 Dayton Site Groundwater Monitoring Program

A groundwater monitoring program was initiated in 1980 so that the current impact of past disposal practices in the immediate industrial neighborhood and at the Dayton Site could be adequately evaluated. This program was conducted under the auspices of Monsanto Environmental Protection Guideline No. 3. The monitoring system consisted of existing wells, where possible, and a supplemental series of shallow and deep monitoring wells. Figure 6-2 illustrates the locations and depth designations of the Dayton Site wells. Presently, the Dayton Site has 24 groundwater monitor wells which can be used for water level purposes. Fourteen (14) are completed in the upper aquifer and ten (10) are completed in the deep aquifer. There are also three (3) wells installed for production water purposes.

The first series of supplemental monitoring wells installed was a combination of a deep well and a shallow well at four locations along the eastern extreme of the Site (Well Nos. 1S, 1D, 2S, 2D, 3S, 3D, 4S and 4D). The shallow wells were screened just above the expected till layer to monitor the potential existence of any contamination in the upper aquifer. Any contaminants that might be migrating through the possibly discontinuous layer at this side of the Site would be detected in the deep wells. The deep wells were screened 15-20 feet below the lower extent of the till. Installation of the eight (8) wells was completed in December 1980. The boring logs confirmed that a till layer exists 65-70 feet below the surface. The overburden encountered at other well installations further west (from their boring logs) was not in evidence.

The West well was installed in 1982 to provide a fresh water source for cultivating fish species for biological testing.

A second set of four wells was installed in the upper zone in December 1982; these were Well Nos. 5, 6 and 7 (three wells east of Building 25) and Well No. 8 (east of Building 19). Well Nos. 6 and 7 were subsequently abandoned due to plant expansion. Well No. 11 was installed in 1985 as a down-gradient monitoring well for the Building 2 decommissioning and demolition activities.

Well No. 9 was installed in 1985-86 to confirm elevated dissolved total organic carbon (TOC) and metal concentrations observed previously from both aquifers at an isolated southeast corner location (Well Nos. 1S and 1D) which were once believed to be contaminants absorbed to the soils which were backfilled around the screens when the wells were constructed. The source of elevated concentrations was sewer line leakage.



Groundwater sampling and analysis was conducted at most wells in November 1989 for 40 CFR 261 Appendix IX compounds. Results indicated little obvious contamination in the upper and deep aquifers. Dissolved metals analysis showed no metals above drinking water standards. One organic compound was detected in Well No. 3S -- 5.8 ug/L of 1,1,2-trichloroethane.

A third set of nested pair monitoring wells (one deep, one shallow) was installed in 1990. These wells are GM-12S and GM-12D at the north edge of the parking lot; GM-13S, GM-13D, GM-14S, GM-14D, and GM-15S along the west edge of the property facing the railroad line; and GM-16S and GM-16D at the north property edge, east of the North Production well.

In 1991, six new wells were installed, as shown on the map in Figure 6-2. These wells are GM-4DR, GM-11S, GM-5S, GM-17S, GM-17D and GM-19S. Well numbers 5, 8, 12, and 11 were abandoned.

No measurable degradation of groundwater quality due to past on-site waste activities is apparent at this time.

6.6 COMMUNITY GROUNDWATER MANAGEMENT

Plans are proceeding in the Miami Valley to develop a groundwater protection and management program for the Great Miami/Little Miami buried river aquifer system, which supplies water to more than 87% of the region's people. The management program will focus on the buried valley system as it occurs in the Miami Valley Regional Planning Commission's (MVRPC) planning area, composed of Darke, Greene, Miami, Montgomery and Preble counties. Within these counties, an area has been delineated within which the aquifer system is the "sole source" of drinking water; i.e., the system itself provides water for 50% or more of the population. In May 1988, the EPA made a final determination that the Miami Valley aquifer system was a sole source aquifer under the authority of Section 1424(e) of the Safe Water Drinking Act. Within this sole source area, there are 52 townships, 21 cities, numerous villages and special districts, and Wright-Patterson Air Force Base. In this area, also, the aquifer system is overlain by a variety of land uses and their related activities, ranging from industrial and commercial development, to residential neighborhoods, to agricultural areas. Certain activities associated with these land uses may in the future, or are now, negatively impacting groundwater quality.

Under the guidance of MVRPC's Policy Issues Committee and the Water Quality Management Program's basin councils, the initial phases of the aquifer protection and management plan are underway. The data base is being developed, as is a baseline aquifer assessment. The

petition requesting Sole Source Aquifer Designation (SSAD) has been granted by the EPA. In 1986, MVRPC completed an extensive study of the role of local governments in protecting the aquifer through land use controls and a variety of other administrative and regulatory mechanisms. The next step is to formulate a set of guidelines for controlling certain land use-related potential pollutant activities which exist and are planned in the jurisdictions which lie above and adjacent to the aquifer. Such guidelines are intended as an informational or educational resource that can be used as a tool by local governments in arriving at common criteria through which threats to groundwater supplies stemming from land use activities can be minimized. The guidelines will become part of the area's groundwater protection and management plan by reference, and will be designed to reflect its emerging policies and recommendations. The Dayton Plant has participated as a technical advisor to this program.

6.7 ADVANTAGES/DISADVANTAGES OF THE SITE - GROUNDWATER

The Dayton Site sits on a sole source aquifer and needs to be extremely responsible in all its handling and processing operations. With any addition of new chemical substances or facility expansion, adequate safeguards must be designed into equipment and procedures to ensure groundwater protection.

Because the Site was once a research laboratory and small pilot plant rather than production plant, the past on-site disposal practices have been minimal and, if contaminated, can be remedied relatively inexpensively and quickly.

6.8 POTENTIAL CONCERNS

SWMU investigations under RCRA corrective action may present undefined costs for the Site to absorb.

6.9 ACTION PLAN - GROUNDWATER

- Continue groundwater monitoring on a semi-annual basis for selected indicator parameters in all wells.
- Continue groundwater investigation studies to further characterize subsurface conditions and hydrology.
- Continue to review new projects and current operating procedures in the Production Unit to minimize or eliminate possible sources of groundwater contamination.

- Continue active participation in the evolution of a community groundwater management and protection program.

7. SOLID AND HAZARDOUS WASTE CONTROL

7.1 REGULATORY STRUCTURE

Federal

U.S. Environmental Protection Agency
Region V
230 South Dearborn Street
Chicago, Illinois 60604
(312) 886-7579

Basil G. Constantelos, Director
Waste Management Division

State

Ohio Environmental Protection Agency
P.O. Box 1049
361 East Broad Street
Columbus, Ohio 43216
(614) 466-7220

Linda Welch, Chief
Division of Solid and Hazardous Waste Management

District

Ohio Environmental Protection Agency
Southwest District Office
7 East Fourth Street
Dayton, Ohio 45402
(513) 461-6357

Tom Winston, Chief
Ohio EPA Southwest District Office

Local

Montgomery County Sanitary Engineering Department
Solid Waste Management
451 West Third Street
Dayton, Ohio 45402
(513) 225-6145

7.2 REGULATORY RELATIONSHIPS

Regulatory contact with EPA Region V has involved telephone and letter contacts regarding permit maintenance activities. The relationship with Region V is limited because Ohio EPA administers the hazardous waste program, but would appear to be good. Regulatory contact with Ohio EPA has involved the above plus annual RCRA inspections. The inspections have gone well and the site relationship with Ohio EPA, particularly the Southwest District office, appears to quite good.

7.3 SOLID AND HAZARDOUS WASTE LAWS

7.3.1 Federal Laws

The Resource Conservation and Recovery Act (RCRA) of 1976 (P.L. 94-580), as amended, is the principal federal statute controlling the handling, treatment and disposal of solid and hazardous waste. The objectives of the act are to promote the protection of health and the environment, and to conserve valuable material and energy resources. RCRA is a multifaceted and far-reaching statute comprised of eight subtitles as follows:

- A. General Provisions
- B. Office of Solid Waste; Authorities of the Administrator and Interagency Coordinating Committee
- C. Hazardous Waste Management
- D. State or Regional Solid Waste Plans
- E. Duties of the Secretary of Commerce in Resource Recovery
 - F. Federal Responsibilities
 - G. Miscellaneous Provisions
 - H. Research, Development, Demonstration, and Information.

The principal regulatory sections of RCRA which affect the Dayton Site are Subtitle C, Hazardous Waste Management which control the generation, storage, transportation, treatment and disposal of hazardous waste, and Subtitle D, Solid Waste Plans, which controls the disposal of solid waste.

RCRA has been amended three times. Noncontroversial additions clarifying certain sections of the law and correcting clerical errors in the text were attached as floor amendments to the Quiet Communities Act of 1978 (P.L. 95-609). The Solid Waste Disposal Amendments of 1980 (P.L. 96-482) were somewhat more substantive and reflected experience with RCRA. Tougher enforcement powers were given to the USEPA to deal with illegal dumpers of hazardous waste; EPA's authority to regulate certain high-volume, low-hazard wastes (known as "special wastes") was restricted; funds were authorized

to conduct an inventory of hazardous waste sites; and RCRA authorities were extended.

The third set of amendments, the Hazardous and Solid Waste Amendments (HSWA) of 1984 (P.L. 98-616), is a very complex law with many detailed technical requirements. The principal focus of the law is to severely restrict land disposal of hazardous waste unless it meets best demonstrated treatment standards. This provision forces use of more waste recycling and chemical/physical or thermal treatment before land disposal of the residue. The law terminates the "interim status" of land disposal facilities that existed prior to RCRA enactment in 1976 unless they meet certain technical requirements (double liners and groundwater monitoring). HSWA directs EPA to address corrective action at RCRA facilities for releases from past solid waste management units; includes small quantity hazardous waste generators (those producing between 100 and 1,000 kg of waste per month) into the hazardous waste regulatory scheme; creates a new regulatory program for underground storage tanks aimed at detecting and preventing leaks of hazardous substances and petroleum products; directs EPA to issue regulations governing those who produce, distribute, and use fuels produced from hazardous waste, including used oil; directs EPA to, at a minimum, inspect annually government-owned hazardous waste facilities and to inspect every two years privately owned facilities. Each federal agency is required to submit to EPA an inventory of hazardous waste facilities it has ever owned.

The law also imposes on EPA a timetable for issuing or denying permits for treatment, storage, and disposal facilities; requires permits to be fixed for terms not exceeding 10 years; requires permit applications to be accompanied by information regarding the potential for public exposure to hazardous substances in connection with the facility; and authorizes EPA to issue experimental permits for facilities demonstrating new technologies. EPA's enforcement powers were increased, the list of prohibited actions constituting crimes was expanded, penalties were increased, and the citizen suit provisions were expanded.

The principal sections of HSWA which affect the Dayton Site are the land disposal restrictions on generated wastes and RCRA facility corrective action mandates.

7.3.2 State Laws

The Ohio Solid and Hazardous Waste Disposal Law is contained in the Ohio Revised Code; Title 37 -- Health, Safety and Morals; Chapter 34 -- Solid and Hazardous Waste Laws of 1972.

7.4 SOLID AND HAZARDOUS WASTE REGULATIONS

7.4.1 Federal Regulations

EPA has promulgated regulations in Title 40 of the Code of Federal Regulations (40 CFR) controlling hazardous waste management pursuant to Subtitle C of RCRA. The regulations establish a "cradle-to-grave" regulatory scheme applicable to generators of hazardous waste, those who transport hazardous waste, and those who operate hazardous waste treatment, storage, recycling or disposal facilities. The format of these regulations is given in Table 7-1.

7.4.2 State Regulations

Sanitary and non-hazardous wastes are regulated by the Ohio Solid Waste Disposal Regulations, which are contained in the Ohio Administrative Code (OAC), Title 3745, Chapters 27 and 37. The regulations define a solid waste as such unwanted residual solid or semisolid material as results from industrial, commercial, agricultural, and community operations, excluding earth or material from construction, mining, or demolition operations, and slag and other substances which are not harmful or inimical to public health, and includes, but is not limited to, garbage, combustible and non-combustible material, street dirt, and debris.

Hazardous wastes are regulated by the Ohio Hazardous Waste Regulations, which are contained in OAC Title 3745, Chapters 50 through 69 -- Hazardous Waste Regulations. The state regulations define a hazardous waste in a manner similar to that contained in federal RCRA regulations.

7.4.3 State Regulatory Authority

Section 3006 of RCRA allows U.S. EPA to authorize a state hazardous waste program to operate in lieu of the Federal hazardous waste program. Two types of authorization may be granted. The first type, known as "interim authorization" or Phase I, was a temporary authorization which was granted if U.S. EPA determined that the state program was "substantially equivalent" to the Federal program. Phase II authorization has three components: Phase IIA covers general permitting procedures and technical standards for containers and tanks. Phase IIB covers permitting of incinerator facilities and Phase IIC addresses the permitting of landfills, surface impoundments, waste piles and land treatment facilities. The regulations promulgated under HSWA required the state to apply for and receive authorization for major regulations with other Federal HSWA regulations having self-implementing provisions.

TABLE 7-1.
FORMAT OF FEDERAL REGULATIONS FOR HAZARDOUS WASTE

40 CFR	Description
Part 260	Hazardous Waste Management System: General
Part 261	Identification and Listing of Hazardous Waste
Part 262	Standards Applicable to Generators of Hazardous Waste
Part 263	Standards Applicable to Transporters of Hazardous Waste
Part 264	Standards for Owners and Operators of Hazardous Waste Treatment, Storage and Disposal Facilities
Part 265	Interim Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities
Part 266	Standards for the Management of Specific Hazardous Wastes and Specific Types of Hazardous Waste Management Facilities
Part 267	Interim Standards for Owners and Operators of New Hazardous Waste Land Disposal Facilities
Part 268	Land Disposal Restrictions
Part 270	EPA Administered Permit Programs: The Hazardous Waste Permit Program
Part 271	Requirements for Authorization of State Hazardous Waste Programs
Part 272	Approved State Hazardous Waste Management Program
Part 280	Underground Storage Tanks

Ohio EPA was granted Phase I Interim Authorization on July 15, 1983. The complete application for final authorization was submitted on July 8, 1985; Ohio EPA was denied authorization because of inadequate program administration and enforcement until 1988, then in 1988 finally received full authorization from USEPA.

Ohio has been delegated authorization to operate its hazardous waste management program in lieu of the Federal hazardous waste program. Ohio now has the responsibility for issuing RCRA permits for hazardous waste treatment, storage and disposal facilities subject to the authority retained by U.S. EPA under HSWA. Since the requirements and prohibitions imposed by HSWA are effective immediately, regardless of a State's authorization status, U.S. EPA will continue to implement the applicable HSWA requirements. In other words, under HSWA there will continue to be a dual State/Federal regulatory program in Ohio. To the extent Ohio's authorized program is unaffected by HSWA, the Ohio program will operate in lieu of the Federal program. To the extent HSWA-related requirements are in effect, U.S. EPA will continue to administer and enforce those portions of HSWA (which may include the issuance of full or partial permits) until Ohio receives authorization. Until that time, Ohio will continue to assist U.S. EPA's implementation of the HSWA requirements under a cooperative agreement.

7.5 ON-SITE WASTE MANAGEMENT

All waste materials generated at the site are managed for off-site recycling, treatment or disposal. There is no on-site disposal of wastes, except for small quantities of wastes which can be neutralized and sewered (e.g., acids and bases).

Wastes generated in the Production Facility are placed in 55-gallon steel drums (except for corrosive wastes which are placed in polylined plastics 55-gallon drums), and stored at the hazardous waste storage pad (Building 25) until a sufficient quantity is accumulated for off-site treatment and disposal. During individual drum accumulation and later storage, the drums are labeled in accordance with RCRA regulations. Prior to shipment off-site, the drums are marked in accordance with DOT regulations, and a hazardous waste manifest is prepared and used in accordance with RCRA rules.

7.5.1 Past Waste Management Practices

Past waste management at the site included burial of small quantities of waste generated from research laboratory operations and pilot plant activities. Because this site continues to seek a RCRA Subtitle C hazardous waste permit for container storage, it is required to comply with Subpart S of Part 264 RCRA regulations for corrective action for releases of hazardous waste or constituents from any solid waste management unit (SWMU) located at the facility. Subpart S requires the owner/operator to conduct investigations of and corrective action for "all releases of hazardous waste, including hazardous constituents, from any SWMU at the facility, regardless of the time at which waste was placed in such unit."

SWMU investigations are currently ongoing as part of the groundwater assessment program conducted by an outside contractor. There have been no known spills that have resulted in any geological or hydrological contamination.

7.6 HAZARDOUS WASTE STORAGE

Some of the manufacturing processes in the production facility generate hazardous wastes. After a drum or container has been filled, all hazardous wastes are stored on a container storage facility, which operates under a RCRA Part B permit, prior to shipment off-site for treatment or disposal. The major waste streams stored at the Dayton Plant (as of 1990) and their EPA hazardous waste numbers are listed in Table 7-2.

The hazardous waste storage facility, Building 25, is an open air structure permitted to store up to 11,000 gallons, or 200 55-gallon drums. The facility consists of a rectangular concrete slab, 31 ft. x 55 ft., containing four (4) recessed concrete catch basins, 10 ft. x 27 ft. A sump, consisting of a 55-gallon stainless steel drum, is centrally located in the base of each catch basin. Acco drainage tile equivalent to an 8-inch sewer pipe is located around the perimeter of the facility to drain any influx of rain water away from the holding basins; the drainage from the tile is directed into a large lined holding pit. The storage facility is covered with a roof having a 2 to 2½-ft. overhang, and it is surrounded by a chain-link fence.

Waste drums are stored single level on an elevated grating in the holding basins. Leakage from any waste container and rain water will collect in the basin's sump and can be removed by a portable pump. If the sump contents are determined to be a hazardous waste, they are placed into appropriate containers and labeled for storage.

TABLE 7-2.
DAYTON PLANT'S MAJOR WASTE STREAMS

WASTE STREAM	EPA WASTE NO.	OFF-SITE DISPOSITION
Resins and Paper	D001	Incinerator
Waste Methylene Chloride	F002	Incinerator
Off-Spec Nyrim Prepolymer	D001	Incinerator
Scrap Bronco Herbicide	D001	Incinerator
Acetone Cleanout	F003	Kiln Fuel
Butanol Cleanout	F005	Kiln Fuel
Toluene Cleanout	F005	Kiln Fuel
MEK Cleanout	F005	Kiln Fuel
Ethanol Cleanout	D001	Kiln Fuel
Thionyl Chloride/Butyl Acetate Solution	D001 D002 D003	Incinerator

The container storage facility is adjacent to a concrete pad which permits the use of forklifts to manipulate drums into and out of the fenced-in area. An overhead hoist is used to place drums into specific positions, and to remove drummed waste for off-site shipments. The hoist also is used to relocate leaking drums to facilitate greater ease in the transfer of drum contents to a secure container.

Other features of this facility include a telephone, a wheeled fire extinguisher, locked access, and warning signs indicating that only authorized personnel are allowed in the hazardous waste storage facility.

7.7 HAZARDOUS WASTE TREATMENT/DISPOSAL OFF-SITE

Solid and liquid flammable and combustible hazardous wastes are incinerated at EPA-permitted RCRA facilities or blended into a cement kiln fuel at EPA-permitted solvent recycling/storage facilities. Liquid wastes shipped for cement kiln fuel programs go to Chemical Waste Management Resource Recovery in Miamisburg, Ohio.

Incinerator facilities most often used include Ross Incineration Services Inc. in Grafton, Ohio; Rollins Environmental Services in Bridgeport, New Jersey or Deer Park, Texas; Chemical Waste Management in Chicago, Illinois; and ENSCO, Inc. in El Dorado, Arkansas.

7.8 NONHAZARDOUS WASTE DISPOSAL

Nonhazardous wastes generated on-site are placed in containers for convenient and legal disposal. Broken glassware and other items that represent potential hazards to site personnel are placed in separate containers segregated from other wastes before being placed in dumpsters. A waste removal contractor, GSX/Laidlaw, collects wastes accumulated in dumpsters and disposes of them at the Montgomery County Trash Incinerator.

Scrap metal, excluding containers, from construction and other activities is sold to Harris Harbor of Troy, Ohio. Plant personnel desiring to remove a scrap or used container from the Dayton Plant must have a property pass signed by the Site Manager and the Environmental Supervisor. This policy is intended to prevent harm to persons using old drums which may have harmful residual materials.

Used empty drums and other empty containers are triple-rinsed and crushed on-site by Tri-Rinse Corporation, and then sold as scrap. The waste rinse material is disposed by Monsanto.

7.8.1 Asbestos Waste Disposal

Some asbestos materials, primarily pipe and building insulation, still remain at the Dayton Site. This insulation is replaced on an as-needed basis in the course of plant expansions, modernizations and remodeling. A qualified outside asbestos contractor is hired and used to handle asbestos removal and disposal.

7.9 RADIOACTIVE WASTE

Low-level radioactive wastes from the Engineered Products Department were stored on-site from 1982 to 1987 in a bunker facility (former Building 7) while awaiting ultimate disposal. An outside contractor, IT Corporation, was hired to repackage and dispose of this waste, and the bunker building was decommissioned and demolished.

7.10 POLYCHLORINATED BIPHENYLS (PCBs)

PCBs are regulated under the Toxic Substances Control Act (TSCA) of 1976. Section 6 of TSCA requires EPA to regulate chemical hazards to control "an unreasonable risk of injury to health or the environment." For regulation of PCBs, there are special requirements for storage, containers, labeling, inspection, reporting, shipping, and disposal.

In 1986, the Dayton Site had three PCB transformers containing >500 ppm PCB fluids. By mid-year 1988, the Dayton Site became "PCB-free," having removed or retrofitted all transformers which once contained PCB fluids. Plans are in place to test Therminol heat transfer fluids for the presence of incidental PCBs.

7.11 HAZARDOUS WASTE PERMITS

Federal RCRA regulations require that anyone who owns or operates a facility where hazardous waste is treated, stored or disposed must have a permit outlining the conditions under which the facility can manage hazardous waste. By submitting a permit application form (Part A application), facilities that have previously submitted a notification form may obtain interim status, which allows them to continue operating until a final hazardous waste permit is issued. The final RCRA permit process consists of a detailed permit application (Part B application), which is received or called in, reviewed, undergoes public comment, and is issued or denied.

A "Notification of Hazardous Waste Activity" was submitted to EPA Region V on August 15, 1980, as required under Section 3010 of RCRA. The Dayton Plant was assigned EPA Identification No. OHD004855292 by Region V.

A Hazardous Waste Permit Application (Part A) to store hazardous wastes, as required under Section 3005 of RCRA, was submitted to Region V on November 12, 1980. During February 1982, Region V requested Part B of the Dayton Plant permit application. The Part B application was sent to EPA on August 18, 1982.

The Dayton Plant received a final Part B permit on August 9, 1984, the first RCRA permit of Monsanto Company. The permit authorized container and tank storage only. Applicable regulations are 40 CFR Parts 261, 262, 264, 264 Subparts A-E, 264 Subparts G-I, and 270.

The Ohio Hazardous Waste Facility Board approved by resolution, on September 15, 1981, the issuance of a Hazardous Waste Facility Installation and Operation Permit (#05-57-0433) to the Dayton Plant. The permit authorizes the facility to engage in the storage

of hazardous wastes in accordance with the information submitted on the Part A application.

The Ohio permit expired on September 15, 1985. At that time, the Ohio EPA/Hazardous Waste Facility Board received statutory authority to renew all existing permits and that the renewals would be conducted using the Part B mechanism. Ohio EPA called in the Dayton Plant's Part B permit application on May 9, 1985. The Part B application was submitted to Ohio EPA for technical review in November 1985. According to OAC Rule 3745-50-56(A) and (B), a facility operating pursuant to a hazardous waste permit that has expired may continue to operate in accordance with the terms and conditions of the expired permit until the renewal permit is issued or denied, provided a renewal application has been submitted.

The Site operates under the federal permit, and once Ohio EPA issues their permit, the Site will have two RCRA permits until the federal permit is expired and/or revoked.

7.12 WASTE REDUCTION

Every attempt is made during production to recycle vessel clean out solvents whenever possible. The Site has also initiated talks with the Corporate sample preparation group to look at ways to reduce use of chlorinated solvents in new processes and, in general, look at waste reduction when developing these new processes.

7.13 ADVANTAGES/DISADVANTAGES OF SITE - SOLID/HAZARDOUS WASTE

The management practices and procedures at the Dayton Site adequately provide the control needed to handle solid and hazardous wastes generated by the Production Unit. These practices, however, are dependent on the availability of off-site commercial TSD facilities for the disposal and transport of generated wastes. The varying nature and number of processes associated with an interim production facility makes a challenging job of keeping up with waste qualification at commercial TSD facilities.

Some wastes are stored on-site until a sufficient quantity of containers has been accumulated for cost-effective disposal. The RCRA Part B permit allows this storage for economic shipments to occur. The hazardous waste container storage facility (Building 25) is a well designed storage facility.

Groundwater monitoring wells have been installed around Building 25 which would detect potential contamination. RCRA regulations and the current Part B permit do not require groundwater monitoring at waste storage facilities.

The nature of interim production (short or intermittent production campaigns) make waste reduction programs difficult to implement and provide cost returns.

7.14 POTENTIAL CONCERNS

The hazardous waste storage area is limited to containers and to a specific maximum volume, without a major permit modification. If multiple processes and increasing waste volumes continue at the Site, it may become difficult to store all the waste inside the existing facility until shipment to TSD facilities. Tank storage of liquid wastes may be an option, would be limited to 90-day accumulation only since storage (>90-days) is not permitted.

7.15 ACTION PLANS

- Consider the possibility and expediency of doing without a RCRA Part B container storage permit, in light of the excellent turnaround time service now provided by commercial TSD facilities.
- Review the longer-term processes for increased hazardous and solid waste reduction opportunities.
- Maintain good relationships with several approved commercial TSD facilities to ensure viable disposal options.
- Maintain good relationships with the regulatory agencies via inspections and open communications.

8. INDUSTRIAL HYGIENE

8.1 REGULATORY STRUCTURE

Occupational Safety and Health Administration (OSHA)

Federal

U.S. Department of Labor - OSHA
Region V
32nd Floor - Room 3263
230 South Dearborn Street
Chicago, Illinois 60604
(312) 353-2220

Cincinnati Area Office

U.S. Department of Labor - OSHA
Federal Office Building - Room 4028
550 Main Street
Cincinnati, Ohio 45202
(513) 684-3784

Local Contacts

William Murphy - Area Director, OSHA

State

Industrial Commission of Ohio
Division of Safety and Hygiene
420 S. Reynolds Road
Toledo, Ohio 43615
(419) 535-7806

8.2 REGULATORY RELATIONSHIPS

Relationships with OSHA are excellent. Communications have been made through direct contact by phone and through local industrial hygiene/safety organizational meetings.

Representatives from OSHA have been at the site on two occasions. One visit was to investigate an employee complaint over the "mishandling of dioxins," during the period of the late 1970s and early 1980s when the contract research laboratory analyzed polychlorinated dibenzodioxins and dibenzofurans. The Industrial

Hygiene Compliance Officer (IHCO) of OSHA investigated this complaint in March 1980. He observed handling practices for dioxins, inspected the facilities where dioxins were used, and took wipe samples for dioxins in the areas where they were used. No violations were found from this inspection. In fact, the IHCO expressed his opinion that everything was in good order.

The second visit was an investigation of an incident that occurred in October 1985, involving the inadvertant mixing of two incompatible chemicals. The Area Director and a compliance officer visited the site and conducted an investigation. Copies of an internal Monsanto incident investigation were sent to OSHA, and the findings and recommendations of that report along with their own satisfied OSHA that corrections were made to ensure continued safe operation. No citations were received.

8.3 OCCUPATIONAL HEALTH CONTROL LAWS

8.3.1 Federal Laws

The major law controlling safety and occupational health concerns for the Dayton Plant is the Occupational Safety and Health Act of 1970 (P.L. 91-596). The Act is designed to assure that so far as possible every working man and woman in the nation is provided safe and healthful working conditions. The Act is broad in scope and is divided into two major areas: safety and health control. The Act is administered by the Occupational Safety and Health Administration through the Department of Labor. A copy of the law, as amended, can be found in the BNA Occupational Safety & Health Reporter, Section 71:1101.

8.3.2 State Law

The Industrial Commission of Ohio, Division of Safety and Hygiene is the regulatory agency at the state level. The specific safety and hygiene requirements of the Industrial Commission of Ohio relating to workplace can be found in the "State of Ohio Administrative Code," Chapter 4121:1-5.

8.4 OCCUPATIONAL HEALTH REGULATIONS

8.4.1 Federal Regulations

OSHA regulations can be found in CFR Title 29, Chapter XVII Parts 1901 - 1999. Part 1910 contains OSHA Standards and is one of the major controlling sections in the regulations. Subpart Z, Section 1910.1000 sets standards for toxic and hazardous substances. This

section details criteria for evaluation of workplace stresses and has the major impact on the health standards.

In addition, OSHA's "Hearing Conservation Amendment" final rule was issued March 8, 1983 with an effective date of April 7, 1983.

OSHA Standards and Regulations pertinent to occupational health and control include:

TITLE	SECTION	DESCRIPTION
29 CFR	1904	Recording and Reporting Injuries and Illnesses
29 CFR	1913	OSHA Access to Employee Medical Records
29 CFR	1910.20	Access to Employee Exposure and Medical Records
29 CFR	1990	Identification, Classification, and Regulation of Potential Occupational Carcinogens
29 CFR	1910.94	Ventilation
29 CFR	1910.95	Occupational Noise Exposure
29 CFR	1910.95	Hearing Conservation Amendment
29 CFR	1910.96	Ionizing Radiation
29 CFR	1910.97	Non-Ionizing Radiation
29 CFR	1910.120	Emergency Response and Hazardous Waste Operations
29 CFR	1910.134	Respiratory Protection
29 CFR	1910.1000 through 1910.1500	Subpart Z - Toxic and Hazardous Substances
29 CFR	1910.151	Medical and First Aid
29 CFR	1910.156	Fire Brigade

8.5 MEDICAL SURVEILLANCE

All employees at the Dayton Plant are given an initial physical examination by the plant physician. Thereafter, physical examinations are given on the basis of work assignments and age. All persons working in the Production Unit and Maintenance Department are given annual physical examinations. All other employees are examined according to the following age schedule:

- Less than 35 years old - every 3 years
- 35-45 years old - every 2 years
- Greater than 45 years old - each year.

A listing of the medical tests conducted during employee physical examinations can be found in the Monsanto DMEH "Policy Guide Occupational Medicine."

Blood samples are sent to Metpath Labs for analysis. This information is reviewed by the plant physician and is sent directly to St. Louis by Metpath for entry into Monsanto's Medical and Environmental Health Information (MEHI) system.

The Dayton Plant does not have a physician or nurse at the site, has a company doctor, Dr. James Leary, on call. Emergency medical services are provided by the first aid team. Personnel requiring emergency medical services beyond first aid will be transported to the St. Elizabeth's Hospital emergency room (ETA = 3-5 minutes).

The Industrial Hygiene/Safety Department is responsible for reviewing plant projects, evaluating occupational exposures to hazards, and transmitting medical/toxicological information to the employee about the materials in use and the results of workplace monitoring. The department also maintains liason with the plant physician and Monsanto DMEH with regard to employee exposures. Chris Strang of DMEH is the industrial hygiene contact for the Dayton Plant. He is responsible for providing technical assistance and consultation in audit and industrial hygiene monitoring programs.

8.6 WORKPLACE AIR MONITORING

The Safety/Industrial Hygiene Department conducts personal and/or area monitoring for occupational exposures to physical and chemical agents. Each work area and project are evaluated prior to start-up and during operation to determine what agents are to be (are being) used and how they will be (are being) used. Based on this evaluation, it is determined whether monitoring is necessary, and, if so, what type of monitoring should be done. Time-weighted averages and peak concentrations will be assessed in the employee's

breathing zone during the time in the work area. Additional area samples and field validation samples will be collected in the same area to establish the validity of the sampling and analytical methods. Industrial hygiene reports are kept on file in the IH Technician's office.

8.7 RESPIRATORY PROTECTION

It is Dayton Plant policy that employees are not to be exposed to air contaminants in concentrations and for time periods that exceed recognized exposure limits including:

- 1) threshold limits defined by the American Conference of Governmental Industrial Hygienists (ACGIH),
- 2) permissible exposure limits defined by OSHA,
- 3) Monsanto workplace exposure limits specified by DMEH, or
- 4) limits established by Dayton Plant management.

Protection of personnel from airborne exposure is to be sought first through engineering and work practice controls. Options include enclosure of the operation, ventilation, and substitution of less toxic materials.

The Dayton Plant utilizes several varieties of respiratory protection including dust masks, cartridge respirators, pressure-demand trailing air mask systems, and pressure-demand self-contained breathing apparatus. Each employee whose job requires or has the potential to require respiratory protection must have the plant physician's approval to use respiratory protection. The employee must then be fitted by the Safety/IH Department personnel for the proper type(s) of respiratory protection. Supervisors in areas that will require the use of respirators are responsible for establishing a respirator program to ensure proper use and care. All programs must be approved by the Safety/IH Department and must be conducted in accord with the OSHA Industrial Hygiene Manual.

Employees authorized to use respirators in their work activities are thoroughly trained in the use, limitations and care of such equipment. Training must include a review of the OSHA Respiratory Protection Standard, demonstrations and practice in wearing a respirator, and determining proper fit.

SCBA (self-contained breathing apparatus, pressure-demand) respirators are located as follows:

- Eight units are staged in Production, two on each floor. On each floor, one unit is inside the blast wall, and one is outside in the operating area. The fourth floor unit is in the north stairwell.
- Two units in the Guard House.
- One unit in Building 19, south wall.
- One unit in Building 23, south wall.

These units are to be worn at any time that an area is suspected to contain airborne contaminants above the approved limits. Rescue operations are to be performed only by persons approved as physically fit to wear SCBA respirators and trained by the IH Department in their use for that purpose. The IH Department regularly checks all units for full air charge.

Further details on respiratory protection are contained in the Dayton Plant Safety Manual under Procedure 516 - Respiratory Protection.

8.8 INDUSTRIAL HYGIENE TRAINING/COMMUNICATIONS

All new employees are required to attend a safety-industrial hygiene indoctrination meeting. This training session includes audio-visual presentations, and personal lectures and demonstrations of various safety and industrial hygiene techniques. Detailed aspects of industrial hygiene and safety are contained in the Dayton Plant Safety Manual, which is provided to each full-time employee. Per-diem and temporary employees have access to the safety manual through their supervisor.

Safety meetings are scheduled periodically for all employees to cover new or modified aspects or corporate/regulatory requirements for safety and industrial hygiene. The general announcement bulletin boards are utilized throughout the site for posting of safety and industrial hygiene notices.

8.9 MONSANTO ENVIRONMENTAL HEALTH INFORMATION (MEHI) SYSTEM

The Dayton Plant is on line with Monsanto's computerized MEHI system through the Monsanto Access and Retrieval System (MARS).

8.10 INDUSTRIAL HYGIENE STATUS REPORTS

Because of the sporadic production campaign nature and variety of the processes in operation at the Dayton Plant, it is difficult to establish ongoing industrial hygiene monitoring programs. The Production Unit processes are reviewed on a case-by-case basis to establish industrial hygiene monitoring priorities. The frequency of monitoring on these projects is dependent upon the materials used, degree of process control to negate exposures, handling practices, and results of first-time monitoring.

8.11 ACTION PLANS

- Maintain good relationships with the regulatory agencies.
- Continue to implement IH Audit Recommendations.
- Complete all SR & AS elements.

9. GOOD LABORATORY PRACTICES

9.1 REGULATORY STRUCTURE

Not applicable

9.2 REGULATORY RELATIONSHIPS

Not applicable

9.3 ACTION PLANS

Monsanto policy is that analyses required by environmental permits will be obtained under Good Laboratory Practices (GLP). Measurements at the Dayton Site which are applicable include pH and total residual chlorine, which are made as field measurements for NPDES and impending stormwater permits. Action plans in this area will be to develop written QA/QC procedures for sample collection, sample chain-of-custody, and any on-site analyses.

10. AMBIENT NOISE CONTROL

10.1 REGULATORY STRUCTURE

Federal

U.S. Environmental Protection Agency
Region V
230 South Dearborn Street
Chicago, Illinois 60604
(312) 353-2000

Local

City of Dayton
Central Services Division
101 West Third Street
Dayton, Ohio 45402

Contact: Mr. Greg Bouchner
Safety and Insurance Officer
513/225-5401

10.2 REGULATORY RELATIONSHIPS

None. There have not been any known area or neighborhood complaints regarding ambient noise levels attributable to Dayton Site activities. No regulatory visits or investigations have taken place.

10.3 AMBIENT NOISE CONTROL LAWS AND REGULATIONS

10.3.1 Federal Laws and Regulations

With enactment of the Noise Control Act of 1972 (P.L. 92-574), the EPA was given the basic authority to control noise pollution and was directed to take a comprehensive approach. This legislation authorized EPA to establish noise emission standards for products now distributed in commerce, to provide for the coordination of Federal research on noise control, and to require manufacturers of products emitting noise capable of adversely affecting the public health or welfare to label their products' noise characteristics. The Quiet Communities Act of 1978 (P.L. 95-609) extended and made minor amendments to the Act.

The Reagan Administration decided to terminate the Federal noise control program in favor of noise control regulation at the State

and/or local government level. Funding at the Federal level ceased to exist by 1982, with EPA's remaining responsibilities in this area being handled by the Assistant Administrator for Air, Noise, and Radiation. While the Noise Control Act has not been repealed, its regulations may be enforced by State and local governments if they have a law or ordinance identical to the Federal regulations.

10.3.2 Local Laws and Regulations

An ordinance entitled "Noise Pollution" (Revised Code of General Ordinances of the City of Dayton, Volume 2, Title 9, Chapter 94, dated 1981) was set forth to control noise emission levels from various sources, including industrial noise.

10.4 STATUS

The ambient noise levels at the Dayton Site perimeter were assessed on November 8, 1981 by a walk-around survey. This survey indicated noise levels between 60 and 75 dBA, with the highest continuous noise level found beside Nicholas Road (75 dBA) and the highest peak level found on the southwest side when the train sounds its whistle (110 dBA). During 1982, five long-term samples were taken along the west and north perimeter. These sites were selected because they represented sections of the Dayton Site with the highest potential for noise generation. The data indicate average exposure levels between 60 to 65 dBA. The highest peak level (106 dBA) was again attributed to the train whistle.

Observation of the noise levels at the Site perimeter indicates that the major contribution of ambient noise is from railway traffic and motor vehicle traffic outside the Dayton Site property. The levels found indicate there are no ambient noise problems emanating from the Dayton Site.

10.5 ACTION PLANS

Except for remaining alert to evidence of changes in existing ambient noise levels or changes in Site operations that could adversely affect such noise levels, no specific noise studies are presently warranted.

MONSANTO



Mary M. Shaffer
Assistant General Counsel – Environmental
Direct Dial: (314) 694-3883
FAX: (314) 694-2920
E-mail: molly.m.shaffer@monsanto.com
Mail Code : E2NE

MONSANTO COMPANY
LAW DEPARTMENT
800 NORTH LINDBERGH BOULEVARD
ST. LOUIS, MISSOURI 63167
<http://www.monsanto.com>

February 21, 2006

Via Overnight Delivery

Fred R. Bartman
U.S. EPA Region 5
Remedial Enforcement Support
Section SR-65
77 W. Jackson Boulevard
Chicago, IL 60604

Re: South Dayton Dump & Landfill
Moraine, Ohio

Dear Mr. Bartman:

Please let this letter serve as the response to the U.S. Environmental Protection Agency's Request for Information regarding the above-referenced site pursuant to §104(e) of CERCLA (42 U.S.C. §9604(e)) ("Request"). As explained below, Monsanto Company is providing this response on its own behalf and as attorney-in-fact for Pharmacia Corporation.

Prior to 1997 the corporate entity then known as "Monsanto Company" had varied operations throughout the U.S. In March 2000, Pharmacia & Upjohn, Inc., merged into a subsidiary of the entity then known as "Monsanto Company." The entity known as "Monsanto Company" then changed its name to Pharmacia Corporation ("Pharmacia"). Immediately following that renaming, the newly named Pharmacia changed the name of another completely separate subsidiary, which it had newly incorporated in 2000, to "Monsanto Company." Generally speaking, Pharmacia then transferred certain agricultural assets, liabilities, and related records of the pre-merger old "Monsanto Company" to the newly created Monsanto Company. In August 2002 Pharmacia completed the spin off of the new Monsanto Company so that the new Monsanto Company is now an independent publicly-held company. Pursuant to a September 1, 2000, Separation Agreement between Pharmacia and the new Monsanto Company, the new Monsanto Company promised to indemnify and defend Pharmacia with respect to certain matters. On April 15, 2003, Pfizer, Inc., acquired Pharmacia, which is now wholly owned by Pfizer rather than being a publicly-held corporation. While sharing a history, Pharmacia Corporation and the new Monsanto Company are completely independent companies.

USEPA's letter makes it clear that the Agency intended its letter to be received by the entity that was historically known as Monsanto when it operated the facility at 1515 Nicholas Road, Dayton, Ohio historically known as Dayton Lab. The current Monsanto Company, which was newly incorporated in 2000, is not that company and has no direct connection to the South Dayton Dump & Landfill Site. Because Monsanto Company did not even exist when the Site was operated, Monsanto Company has no CERCLA liability for the Site. However, Monsanto

did receive the Request, so it is providing this response, both on its own behalf and as Pharmacia's attorney-in-fact with respect to this matter.

During the period of the Site's operation, Pharmacia Corporation operated facilities under the Monsanto name throughout the country. However, only two (2) were in the vicinity of the Site: Dayton Lab and a Miamisburg, Ohio facility known as Mound Lab. Because we have determined that only these two (2) facilities had a reasonable potential to have used the Site due to their geographic proximity, we have focused our inquiry on information specific to Mound Lab and Dayton Lab.

From about 1948 until 1988, the entity then known as Monsanto Chemical Company and subsequently known as Monsanto Company (n/k/a Pharmacia Corporation) operated a U.S. government facility in Miamisburg, Ohio, known as Mound Lab. The Mound Lab operations were conducted exclusively under a contract with the U.S. Department of Energy and its predecessor agencies ("DOE Contract").¹ This DOE Contract, originally entered into in 1943, was the result of the war effort during WWII. From about 1936 until 1992, the company also operated Dayton Lab. In its early years, Dayton Lab operations included work under the DOE Contract. To the extent the Request implicates the DOE Contract, we refer USEPA to the U.S. Department of Energy as the owner of information regarding work under the DOE Contract. The attorney for DOE has been informed of this matter and coordination with DOE is underway. To the extent that the Request implicates operations not associated with the DOE Contract, we are providing this response.

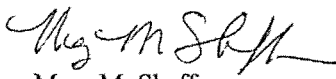
Both Monsanto Company and Pharmacia Corporation object to the overly broad assumption of authority implicit in the Request as well as the overly broad scope of the questions and to the vague and confusing definitions and instructions included in the Request. Overall, we are troubled by the breadth of time that is encompassed by the Request. Nevertheless, consistent with our policies of cooperation with government agencies, the companies are hereby responding to the Request, while at the same time reserving all objections and defenses to the same. We have conducted a fact investigation into the matters identified in the Request and have attached our specific responses and relevant document(s) as Attachment 1. We understand that we have a duty to supplement this response should further relevant and responsive information become known. To the best of my knowledge and belief, the information contained in this response is true and accurate and the documents provided are true and authentic.

¹ The DOE Contract has gone through various redesignations, sequentially, under the following contract number designations: W-7407-ENG-18, W-35-058-ENG-71, AT-33-1-GEN-53, E-33-1-GEN-53, EY-76-C-04-0053, and DE-AC04-76DP00053.

2/21/2006
Fred Bartman
Page 3

If you have any questions, please do not hesitate to call me or our counsel on this matter,
Vicki J. Wright at 317-238-6263.

Very truly yours,




Mary M. Shaffer

Attachment


cc: Vicki J. Wright, Esq., Krieg DeVault LLP
Randy Tormey, Esq., U.S. Department of Energy
Robert Nash, Esq., U.S. EPA

STATE OF MISSOURI)
)SS:
COUNTY OF)

Subscribed and sworn to before me on this 21 day of February, 2006, a notary public
for the County of St. Louis, State of Missouri.

Notary Public 
County of 

Commission Expires: Jul. 1, 2006


PATRICIA BERTRAND
Notary Public - State of Missouri
County of St. Louis
My Commission Expires Jul. 1, 2006

ATTACHMENT 1

RESPONSE

1. Identify all persons consulted in the preparation of the answers to these questions.

RESPONSE: Mr. George Bemsterboer; Ms. Leslie Woods; Mr. Dunny Toy; Mr. Darrell Sevy; and Mr. Jeffrey Klieve. Any attempts to contact the listed individuals or any other current or former employee of Monsanto Company² or Pharmacia Corporation in regard to this matter must be made through, Vicki J. Wright, as counsel for Monsanto Company and Pharmacia Corporation.

2. Identify all documents consulted, examined, or referred to in the preparation of the answers to these questions and provide copies of all such documents.

RESPONSE: To the extent that this Request seeks the identification and copies of documents that are protected by the attorney client privilege and/or work product doctrine Monsanto Company and Pharmacia Corporation object. Notwithstanding this objection, we are providing copies of those documents consulted, examined, or referred to in preparation of the answers to these questions as Exhibit A.

3. If you have reason to believe that there may be persons able to provide a more detailed or complete response to any question or who may be able to provide additional responsive documents, identify such persons.

RESPONSE: There are no other known persons that have been identified who are able to provide more detailed or complete responses on behalf of Monsanto Company or Pharmacia Corporation. To the extent there is a potential connection between operations under the DOE Contract and the Site, the U.S. Department of Energy, pursuant to the DOE Contract, has ownership of that information, knowledge and the underlying records. To the extent the DOE Contract is implicated, please contact

² Although USEPA directed the Request to Monsanto Company, it is clear that the Agency intended the Request to relate to the historic operations of Pharmacia that were conducted under the Monsanto name. Therefore, in addition to responding to the Request on its own behalf, Monsanto Company is also responding on behalf of Pharmacia with regard to Pharmacia's historic operations conducted under the Monsanto name for which Monsanto has actual knowledge. This response does not address Pharmacia's historic operations (e.g., records regarding Pharmacia's historic pharmaceutical operations which it acquired through the 2000 merger with Pharmacia & Upjohn, Inc.) other than those conducted under the Monsanto name for which Monsanto has actual knowledge. Unless otherwise indicated, the current Monsanto Company found no information responsive to this Request with regard to itself, a result that is consistent with the fact that the Dayton Lab facility was sold in 1992 and the current Monsanto Company did not exist prior to 2000.

Randy Tormey, Esq.
U.S. Department of Energy
175 Tri-County Parkway
Springdale, Ohio 45246-3222
513-246-0583

4. Identify all persons including respondent's employees, who have knowledge or information about the generation, use, treatment, storage, disposal or other handling of waste material(s) at Monsanto or of transportation of waste material(s) generated by Monsanto and/or of waste material(s) transported to the above-referenced Site.

RESPONSE: No current or former Monsanto employee has been found who recalled transporting waste materials from Dayton Lab specifically to the Site. Please see, generally, Response #1.

To the extent there is a potential connection between operations under the DOE Contract and the Site, the U.S. Department of Energy, pursuant to the DOE Contract, has ownership of all knowledge and underlying records. To the extent the DOE Contract is implicated, please contact:

Randy Tormey, Esq.
U.S. Department of Energy
175 Tri-County Parkway
Springdale, Ohio 45246-3222
513-246-0583

5. Copies of all shipping documents or other business documents relating to the transportation, storage, and/or disposal of waste material(s) or substances at Monsanto and/or the above-referenced Site.

RESPONSE: The document(s) we located which relate to the historic operations at Dayton Lab (not under the DOE contract) and which may relate to the Site are attached hereto as Exhibit A.

To the extent there is a potential connection between operations under the DOE Contract and the Site, the U.S. Department of Energy, pursuant to the DOE Contract, has ownership of all knowledge and underlying records. To the extent the DOE Contract is implicated, please contact:

Randy Tormey, Esq.
U.S. Department of Energy

175 Tri-County Parkway
Springdale, Ohio 45246-3222
513-246-0583

6. A detailed description of the generic, common, and/or trade name and the chemical composition and character (i.e., liquid, solid, sludge) or the waste material(s) generated by you and/or transported to the above-referenced Site.

RESPONSE: The document(s) we located which relate to the historic operations at Dayton Lab (not under the DOE contract) and which may indicate a relationship with the Site are attached hereto as Exhibit A. The document speaks for itself. There is no more currently known historic information as to materials that may have been at the Site than what is attached to this response as contained in Exhibit A. Please note that Na_2CO_3 is the chemical composition for what is known commonly as soda ash. Alumina is a common name for the substance that has a generic chemical composition of Al_2O_3 . Neither Na_2CO_3 nor Alumina are CERCLA hazardous substances.

To the extent there is a potential connection between operations under the DOE Contract and the Site, the U.S. Department of Energy, pursuant to the DOE Contract, has ownership of all knowledge and underlying records. To the extent the DOE Contract is implicated, please contact:

Randy Tormey, Esq.
U.S. Department of Energy
175 Tri-County Parkway
Springdale, Ohio 45246-3222
513-246-0583

7. For each waste material above, please give the total volume, in gallons for liquids and in cubic meters for solids, for which you arranged for disposal and list when those substances were transported to the above-referenced Site.

RESPONSE: The document(s) attached as Exhibit A speaks for itself. No other responsive information is known at this time than what is contained in that document. Please see Response #6.

To the extent there is a potential connection between operations under the DOE Contract and the Site, the U.S. Department of Energy, pursuant to the DOE Contract, has ownership of all knowledge and underlying records. To the extent the DOE Contract is implicated, please contact:

Randy Tormey, Esq.
U.S. Department of Energy
175 Tri-County Parkway
Springdale, Ohio 45246-3222
513-246-0583

8. What arrangements were made to transport the waste material(s) which were taken to the above-referenced Site? What type of transportation was used (i.e., tankers, dump trucks, drums)?

RESPONSE: No information has been located to indicate what arrangements, if any, were made to transport waste materials to the above-referenced site.

9. Who were the transporters of the waste material(s) you generated, and provide their current address?

RESPONSE: Waste from Dayton Lab may have been transported by C.C. Supply, IWD and Chemical Waste Management. We do not have a current address for C.C. Supply. It is believed that the current address for Chemical Waste Management and IWD is 3003 Butterfield Rd, Oakbrook, IL 60521.

10. Copies of all records, including analytical results, and material safety data sheets, which indicate the identify, amounts, and chemical composition and/or chemical character of the waste material(s) transported to, stored, or disposed at Monsanto or transported to or offered for transportation to, storage, or disposal at the Site.

RESPONSE: Please see Response #6, #7.

To the extent there is a potential connection between operations under the DOE Contract and the Site, the U.S. Department of Energy, pursuant to the DOE Contract, has ownership of all knowledge and underlying records. To the extent the DOE Contract is implicated, please contact:

Randy Tormey, Esq.
U.S. Department of Energy
175 Tri-County Parkway
Springdale, Ohio 45246-3222
513-246-0583

11. A description and list of all liability-insurance coverage that is and was carried by you, including any self-insurance provisions that relate to hazardous substances and/or the above-referenced Site together with copies of all of these insurance policies.

RESPONSE: The claims based upon historic operations that were conducted under the Monsanto name for which insurance coverage existed have previously settled as a part of a global insurance claim/coverage dispute. The current Monsanto Company did not exist prior to 2000 so no insurance exists that would include the Site.

12. For each waste material please give the location at which it was disposed of on the Site. Please include a map of the site with disposal locations marked on it.

RESPONSE: No responsive information has been located in the course of our investigation into this matter.

EXHIBIT A

AN ACCOUNT OF OFF-SITE CHEMICAL WASTE LANDFILLS

<u>Site</u>	<u>Method of Disposal/Treatment</u>	<u>Status</u>	<u>Waste Components</u>	<u>Quantity</u>	<u>Approximate Period of Activity</u>
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REDACTED

South Dayton Dump and Landfill, Dayton, Ohio	Landfill	Closed	Inorganics (e.g., Na ₂ CO ₃ , alumina) in 100 lb sacks	<800 lbs	1976/77
----------------------------------------------------	----------	--------	------------------------------------------------------------------------------------	----------	---------

REDACTED

MONS1040001

1 UNITED STATES DISTRICT COURT

2 SOUTHERN DISTRICT OF OHIO

3 WESTERN DIVISION

4 * * *

5 HOBART CORPORATION, et al.,

6 Plaintiffs,

7 vs. CASE NO. 3:13-cv-00115-WHR

8 THE DAYTON POWER AND LIGHT

9 COMPANY, et al.,

10 Defendants.

11 * * *

12 Deposition of ALAN L. WURSTNER, Witness

13 herein, called by the Plaintiffs for

14 cross-examination pursuant to the Rules of Civil

15 Procedure, taken before me, Beverly W. Dillman, a

16 Notary Public in and for the State of Ohio, at

17 the offices of Sebaly, Shillito + Dyer, 1900

18 Kettering Tower, 40 North Main Street, Dayton,

19 Ohio, on Wednesday, September 25, 2013, at 10:05

20 o'clock a.m.

21 * * *

EXAMINATIONS CONDUCTED

Page

BY MR. ROMINE:.....	5
BY MS. WRIGHT:.....	62
BY MR. HARBECK:.....	65
BY MR. ROMINE:.....	68

EXHIBITS MARKED

(Thereupon, Plaintiffs' Exhibit 1, Capability, Experience, Facilities, Personnel, MONS00001-00002, MONS00083, was marked for purposes of identification.)....	20
(Thereupon, Plaintiffs' Exhibit 2, Figure 3, Location of Chemical Storage, MONS01544, was marked for purposes of identification.).....	29
(Thereupon, Plaintiffs' Exhibit 3, Inter-Office Correspondence dated 5-9-1977, MONS01820-01822, was marked for purposes of identification.).....	55

1 APPEARANCES:

2 On behalf of the Plaintiffs:

3 Langsam Stevens Silver & Hollaender LLP

4 By: David E. Romine
Jennifer Graham Meyer
5 Attorneys at Law
1818 Market Street
6 Suite 3400
Philadelphia, Pennsylvania 19103

7
8 On behalf of the Defendant Cox Media
Group Ohio:

9 Faruki Ireland & Cox P.L.L.

10 By: Jade K. Smarda
Attorney at Law
11 500 Courthouse Plaza, S.W.
10 North Ludlow Street
12 Dayton, Ohio 45402-1818

13 On behalf of the Defendant Pharmacia LLC and
Alan L. Wurstner:

14 Krieg Devault

15
16 By: Vicki Wright
Kay Dee Baird
Attorneys at Law
17 One Indiana Square
Suite 2800
18 Indianapolis, Indiana 46204-2079

19 On behalf of the Defendant P-Americas, Inc.:

20 Morgan, Lewis & Bockius LLP

21 By: W. Brad Nes (via telephone)
Attorney at Law
22 1111 Pennsylvania Avenue, NW
Washington, D.C. 20004-2541

1 On behalf of the Defendant Sherwin-Williams:

2 Gallagher Sharp

3 By: Erik Wineland (via telephone)

4 Attorney at Law

420 Madison Avenue

Suite 1250

5 Toledo, Ohio 43604

6 On behalf of the Defendant Waste

7 Management of Ohio:

8 Quarles & Brady LLP

9 By: William H. Harbeck (via telephone)

10 Attorney at Law

411 East Wisconsin Avenue

Suite 2350

11 Milwaukee, Wisconsin 53202

12 * * *

ALAN L. WURSTNER

of lawful age, Witness herein, having been first
duly cautioned and sworn, as hereinafter
certified, was examined and said as follows:

CROSS-EXAMINATION

BY MR. ROMINE:

Q. Good morning, Mr. Wurstner.

A. Good morning.

Q. My name is David Romine. I'm a
lawyer, and I represent three companies -- Hobart
Corporation, NCR Corporation and Kelsey-Hayes
Company -- in a lawsuit regarding a place called
the South Dayton Dump, and so I'm going to be
asking you some questions today.

Before we get started, we do have
some lawyers on the telephone, in addition to
here in the room, so I'm gonna go ahead and ask
all the lawyers to identify themselves so the
court reporter can take it down before we get
started.

MR. ROMINE: So, again, I'm David
Romine.

MS. MEYER: I'm Jennifer Meyer, for
plaintiffs.

MS. SMARDA: Jade Smarda, for Cox

1 Media Group.

2 MS. WRIGHT: Vicki Wright and Kay
3 Dee Baird, for Pharmacia LLC. We also represent
4 Mr. Wurstner.

5 MR. ROMINE: On the telephone?

6 MR. NES: This is Brad Nes, for
7 P-Americas.

8 MR. HARBECK: Bill Harbeck, for
9 Waste Management of Ohio.

10 MR. ROMINE: We have heard from two
11 lawyers, Mr. Nes and Mr. Harbeck. Is there
12 anyone else on the phone?

13 MR. WINELAND: (No response.)

14 MR. ROMINE: Okay. We will get
15 started then.

16 BY MR. ROMINE:

17 Q. Mr. Wurstner, have you had your
18 deposition taken before? Have you done this kind
19 of thing before?

20 A. No.

21 Q. Okay.

22 A. No.

23 Q. So I'm going to ask you some
24 questions.

25 A. Okay.

1 Q. And if you could answer, that would
2 be good. If you don't hear me or you don't
3 understand me, let me know you don't hear me or
4 understand me --

5 A. Okay.

6 Q. -- and I'll try to say it better.

7 The other thing is that Beverly is
8 taking down everything we say, so if you could
9 wait until I'm finished asking my question --

10 A. (Witness nodding head up and down.)

11 Q. -- that would be good; and then I'll
12 wait for you, even if you think you know what I'm
13 going to ask, which I'm sure is gonna happen,
14 that way she can take it down better.

15 And this is not an endurance test,
16 so if you need to take a break to go to the
17 bathroom or get some water --

18 A. Okay.

19 Q. -- or stand up and walk around,
20 that's totally fine.

21 A. Okay.

22 Q. So, Mr. Wurstner, where do you live?

23 A. Dayton -- or Oakwood, if you want
24 the --

25 Q. Oakwood?

1 A. Yeah, Telford Avenue.

2 Q. And that's close by here to Dayton?

3 A. Well, it's a suburb.

4 Q. It's a suburb of Dayton?

5 A. (Witness nodding head up and down.)

6 Q. Okay. And when were you born?

7 A. August the 23rd, 1924.

8 Q. And where were you born?

9 A. Dayton, Ohio.

10 Q. Did you go to high school here in
11 Dayton?

12 A. Yes.

13 Q. And what high school?

14 A. Went one year at Steele, and
15 graduated from Stivers.

16 Q. It's called Stivers?

17 A. S T I V E R S.

18 Q. Okay.

19 A. Steele was S T E E L E.

20 Q. Gotcha. Thank you. And did you go
21 to college immediately after high school?

22 A. I went to -- a little more than a
23 semester at University of Dayton. And then after
24 I got out of the service, I went to Ohio U.

25 Q. Okay. So I take it you went into

1 the service sometime during your schooling at the
2 University of Dayton?

3 A. Well, 1943 I went in the service.

4 Q. Okay. And what branch --

5 MR. HARBECK: David, this is Bill
6 Harbeck. I'm just wondering if you could move
7 the microphone a little closer to the witness.
8 You are loud and clear, but we are having
9 difficulty hearing the witness.

10 MR. ROMINE: Okay.

11 THE WITNESS: I'll speak louder.

12 MR. ROMINE: Okay. We moved the
13 phone.

14 BY MR. ROMINE:

15 Q. And --

16 A. 1940 -- what branch, is that what
17 you asked?

18 Q. Yes.

19 A. Navy. I was a Seabee. That's
20 S E A B E E.

21 Q. Was your duty in the Pacific?

22 A. Yes, in the beginning, and then in
23 Manila.

24 Q. And so what -- when did you get out
25 of the Navy?

1 A. '40 -- '46.

2 Q. And you -- when you came back, did
3 you come back to Dayton?

4 A. Yes.

5 Q. And you resumed your studies?

6 A. Yes.

7 Q. At what college then?

8 A. Ohio U.

9 Q. I'm sorry, I didn't understand.

10 What is that?

11 A. Ohio U.

12 Q. Ohio University?

13 A. Ohio U.

14 Q. Okay.

15 A. Took three years of college to learn
16 how to pronounce it.

17 Q. And where is that?

18 A. Athens, Ohio.

19 Q. And so what did you -- so you
20 graduated from Ohio University?

21 A. Yes.

22 Q. And what degree did you get?

23 A. I graduated with a degree in
24 education, B.S.Ed. And then I went back and I
25 took a major in botany for a couple years.

1 Q. Okay. So you graduated with a
2 Bachelor's in education?

3 A. Yes.

4 Q. And then you went back to Ohio
5 University?

6 A. Yes.

7 Q. Did you get a degree in biology?

8 A. No, I just took -- actually, major.

9 Q. Okay.

10 A. And some graduate work.

11 Q. And so what year did you graduate?

12 A. 1949.

13 Q. And when did you take your courses
14 in botany?

15 A. '50, '51 -- '50 and '51.

16 Q. Okay. Did you build airfields when
17 you were in the Navy?

18 A. We -- Navy bases mostly.

19 Q. And so did you get a job after you
20 graduated from college?

21 A. Yes.

22 Q. And where was that?

23 A. Monsanto Company.

24 Q. And where were they located?

25 A. Nicholas Road. It was at 1515, I

1 think it is, Nicholas Road.

2 Q. And that's in Dayton?

3 A. Yes.

4 Q. And how long were you employed by
5 Monsanto Company?

6 A. Thirty-one years.

7 Q. Did you work -- while still working
8 for Monsanto Company, did you work for Monsanto
9 Company at any location other than --

10 A. No.

11 Q. -- the 1515 Nicholas Road?

12 A. No.

13 Q. Okay. And what was -- did that
14 facility at 1515 Nicholas Road, did that have a
15 particular name?

16 A. Well, when I started, it was the
17 Central Research Department, Corporate Central
18 Research Department. And then in 1960 it became
19 Monsanto Research Corporation, which was a sub --
20 wholly-owned subsidiary, I guess you would call
21 it.

22 (Brief interruption.)

23 (Record read.)

24 BY MR. ROMINE:

25 Q. Okay. So you had mentioned that

1 you -- Mr. Wurstner -- that the location on
2 Nicholas Road was known as the Central Research
3 Department?

4 A. Corporate Central Research, yes,
5 beginning, yeah.

6 Q. Corporate Central. And then in 1960
7 it was known as --

8 A. It became -- they -- well, the
9 Central Research part moved to St. Louis. And
10 half of us stayed in Dayton and started the
11 Monsanto Research Corporation, which was a
12 contract company -- for contracts.

13 Q. Okay. And so is it correct to say,
14 then, starting in 1960, your paycheck started
15 saying Monsanto Research Corporation?

16 A. Yeah. Yes.

17 Q. When you say the contracts, could
18 you explain that a little bit?

19 A. Government contracts mostly, and
20 with some corporations; but mostly it was
21 government contracts, Air Force -- for Air Force,
22 Army, Navy, DOE. Who else? The medical part,
23 whatever that -- I can't remember what the
24 medical part was called, but the contracts with
25 them mostly.

1 Q. Okay. Do you mean like the federal
2 government, Health Education and Welfare, that
3 kind of thing?

4 A. Pardon?

5 Q. Health Education and Welfare?

6 A. No, didn't do anything like that.
7 But it was mostly in the military, Army, early
8 Air Corps, early Navy -- Air Force, rather.

9 Q. And so you worked for them for 31
10 years?

11 A. Well, total for the company, yeah,
12 from '50 -- '51 to '82.

13 Q. And did you get another job after
14 1982?

15 A. For -- let's see, a couple years
16 later I went to University of Dayton Research
17 Institute for a few years, couple years -- three
18 years, I think it was. I'm not too sure how
19 long.

20 Q. Okay. Was that a full-time job?

21 A. Yeah.

22 Q. And did you retire from Monsanto?

23 A. Yes.

24 Q. Was that work for the University of
25 Dayton, was that immediately after you retired?

1 A. No, I would say I probably was
2 retired for at least a year before I went -- or
3 more than that. To give you an idea, the man
4 that hired me at Monsanto had gone to the
5 University of Dayton Research Group. And he kept
6 calling me up wanting me to go there. And after
7 about six months, I got tired of listening to
8 him, so I took the job.

9 Q. Fair enough.

10 A. So that's the way it went.

11 Q. Fair enough.

12 A. And then I worked there a few years,
13 and it was not good, so I just -- (indicating) --
14 being retired.

15 Q. Better?

16 A. Better being retired, yeah.

17 Q. Did you have any other employment,
18 other than what you have already told me about,
19 Monsanto and then the University of Dayton?

20 A. Well, before Monsanto or -- before
21 Monsanto, part-time summer jobs at NCR Old River
22 Park. And then after University of Dayton I got
23 a job working at sporting good stores, just for
24 something to use time up, but -- a few years.
25 And then I was --

1 Q. Where you worked, was that known as
2 The Dayton Laboratory?

3 A. Yes, in the beginning, yeah, The
4 Dayton Laboratory. And then it became Monsanto
5 Research Corporation; it just was called MRC
6 then.

7 Q. Okay. So at the beginning when you
8 started in about 1950, it was known as The Dayton
9 Laboratory?

10 A. Yeah.

11 Q. And then it was known, in about
12 1960 -- and, again, correct me if I'm wrong -- as
13 Monsanto Research Corporation?

14 A. Yeah.

15 Q. Or MRC?

16 A. MRC.

17 Q. What was your title?

18 A. Research chemist.

19 Q. And that was your title right from
20 the beginning?

21 A. I started, I think I was a
22 technician, I think, was the title; and then
23 became a chemist a couple years later, a few. I
24 don't know what that beginning title would have
25 been. I mean, it was -- technician is as close

1 as I can come to it. I don't know what name they
2 had for it.

3 Q. Fair enough. So how did you become
4 a research chemist without a degree in chemistry?

5 A. I took some -- I took some chemistry
6 courses. I had some before I -- in college. But
7 then I took some around -- at UD, and I think
8 Miami, I took math and some chemistry, a little
9 bit, not much, but --

10 Q. And what did you do? Like what did
11 your job entail?

12 A. At the beginning I was doing
13 physical properties for polymers or plastics, if
14 you want to call it. And then after that I
15 became a micros -- I was the microscopist.

16 Q. Microscopes?

17 A. (Witness nodding head up and down.)

18 THE NOTARY: Yes?

19 THE WITNESS: Yes. I'm sorry.

20 BY MR. ROMINE:

21 Q. And what does a microscopist do?

22 A. Well, basically, uses a microscope
23 to do different measurements, depending -- did a
24 lot of particle size distribution was one of the
25 big things for -- a good example of that, they

1 had a contract with Department of Mines on the
2 coal dust. And they would collect coal dust, and
3 I would do the particle size distributions for
4 it. That type of -- that -- in general, that
5 would be an example of it.

6 Q. Okay. So --

7 A. And then also did the scanning
8 electron microscopy after they got one of those.

9 Q. So when you say particle size
10 distribution, you would take a look at coal dust?

11 A. Yeah.

12 Q. And you would determine -- you got
13 so many particles of this size and so many of
14 this bigger size, and so on and so on?

15 A. Right. Right.

16 Q. Okay.

17 A. And you plot that out on a log, and
18 find the mean values and what the maximum and
19 minimum sizes are.

20 Q. And what was your understanding, why
21 did the Department of Mines want you to do this?

22 A. Well, Black Lung Disease, from the
23 miners that were working the mines produce a lot
24 of dust, would develop what was called Black Lung
25 Disease. And the size of the particles has a

1 difference. Some sizes, when you breathe in, you
2 will breathe them back out again. Other ones,
3 you can't even breathe in. But certain ones
4 stayed, and that was what you looked for, how
5 many of them could stay.

6 And don't ask me what the size is
7 because I don't remember.

8 Q. I understand. Approximately what
9 year was this, or years?

10 A. Oh, Lord. '60s. Well, a lot of
11 that work -- well, '60s and the '70s. It
12 depended on which -- you know, what contract I
13 was -- was measuring for.

14 Q. Did you do particle size
15 distribution studies for things other than coal
16 dust?

17 A. Oh, yeah. Yeah. Well, see, some of
18 those were classified, so I can't state that.
19 But --

20 Q. Any nonclassified materials that you
21 can remember?

22 A. Well, I looked a lot -- a little bit
23 at asbestos for a while.

24 Q. Uh-huh.

25 A. And I'm having trouble remembering

1 now. You caught me.

2 Q. That's okay. If some come to you
3 later on this morning --

4 A. Yeah.

5 Q. -- let me know.

6 So I'm gonna show you some papers
7 here --

8 A. Okay.

9 Q. -- ask you to take a look at them.
10 First, I'm gonna ask the court reporter to mark
11 this as Plaintiffs' Exhibit 1.

12 (Thereupon, Plaintiffs' Exhibit 1,
13 Capability, Experience, Facilities, Personnel,
14 MONS00001-00002, MONS00083, was marked for
15 purposes of identification.)

16 (Thereupon, an off-the-record
17 discussion was held.)

18 MR. ROMINE: Okay.

19 MS. WRIGHT: There is three pages
20 there, Mr. Wurstner. You may want to look at --

21 THE WITNESS: Okay.

22 BY MR. ROMINE:

23 Q. So what I'm showing you, Mr.
24 Wurstner, is three pages from a document that
25 Pharmacia's counsel gave me on behalf of

1 Pharmacia. And I just took those three pages
2 because I wanted to get the page that had your
3 name on it.

4 And so my question is, if you could
5 look at the last page of what I gave you --

6 A. Yeah.

7 Q. -- MONS 83, down at the bottom, is
8 this page -- does this describe you?

9 A. Yeah. Yes.

10 Q. And this is your picture?

11 A. Yeah. I don't know where you found
12 that, but yes.

13 Q. Okay. So I just want to ask you a
14 couple questions about this page here, and that
15 is, if you look at the paragraph that begins
16 major researches have included?

17 A. Uh-huh.

18 Q. And then if you go -- looks like
19 seven lines down, it talks about particle size
20 and distribution of fine powders?

21 A. Uh-huh.

22 Q. Do you see that?

23 A. Yeah.

24 Q. And that's what you were talking to
25 me about just a couple of moments ago?

1 A. Yes.

2 Q. Okay. And then another thing I want
3 to ask you about is down at the bottom there is a
4 new paragraph, and it says at the beginning, Mr.
5 Wurstner is a co-developer of the Monsanto MICRON
6 ORIFICE. Do you see that?

7 A. Yes.

8 Q. What is or was the Monsanto MICRON
9 ORIFICE?

10 A. Okay. They had a contract with the
11 Army Corps of Medical -- Chemical Warfare Corps
12 for developing rate of leaks. So we had -- what
13 we did, we took a piece of quartz fiber, quartz
14 tubing that somebody developed years before, that
15 they had laying around there, that were from
16 one-micron inside diameter up to, well, maybe ten
17 or so. And what we did is we mounted those up
18 into little -- put them in a plastic container
19 and mounted it up, and they were sliced off, and
20 then they could use those to develop a leak. And
21 that was what they were for.

22 And it was just, generally, the
23 different sized holes with a certain distance. I
24 mean, they would be sliced up at different sizes.

25 Q. When you say develop a leak, what do

1 you mean?

2 A. Well, you have a container with
3 something, and what -- how much leaking you would
4 get from a certain size hole in it.

5 Q. Okay.

6 A. I mean, basically, that's what it
7 was.

8 Q. So it's a container with some kind
9 of fluid in?

10 A. Yeah, or gas, either one.

11 Q. Okay. And then you wanted to
12 measure what, the rate of leakage?

13 A. Right. We didn't do that, we just
14 made the --

15 Q. You made the hole?

16 A. The holes, yeah.

17 Q. I see. So it was something that was
18 designed to leak?

19 A. Yeah. Yeah. Oh, yeah. It was a
20 measure -- it was to measure leaks is what it
21 was.

22 Q. Okay. Okay. And did you have an
23 idea of what fluid or gas this was gonna be used
24 for, or it could be anything?

25 A. Well, it's classified.

1 Q. Okay. Have you heard of a place
2 called The Mound Laboratory?

3 A. Oh, yes. Unit 5.

4 Q. Unit 5? And how do -- what is The
5 Mound Laboratory?

6 A. That was a laboratory on contract
7 with the Atomic Energy Commission back then, or
8 DOE.

9 Q. It was a Monsanto place?

10 A. Yes -- well, to give you a little
11 history, a lot of the development of the atomic
12 bomb was done in the Monsanto location in Dayton.

13 Q. You're talking about The Dayton
14 Laboratory now or the Mound?

15 A. The Dayton Laboratory.

16 Q. Okay.

17 A. And Mound basically was an offshoot
18 from that when they built it. They built it
19 after the war, though. But during the war they
20 did a lot of work on it. They had one up in
21 Oakwood that got a little bit warm, so they had
22 to bury it in Tennessee. But --

23 Q. Okay.

24 A. But a little history, that's all.

25 Q. I understand. No problem. Thank

1 you.

2 Was The Mound Laboratory open at the
3 time that you started working at Dayton Lab?

4 A. Yes.

5 Q. Okay. And did they -- when you
6 started at Dayton Lab, did they do that -- did
7 they retain, at that time, any of the atomic
8 research that was being started now at The Mound
9 Lab?

10 A. No. That wasn't done at Dayton
11 anymore.

12 Q. Okay. Okay. So by the time you
13 started at Dayton Lab, that was all transferred
14 out to --

15 A. It was all gone, yeah.

16 Q. Did you ever work at The Mound
17 Laboratory?

18 A. I did some work for them on the
19 scanning electron microscope.

20 Q. But did you ever show up at The
21 Mound Laboratory?

22 A. Well, I went down and visited down
23 there, but not as a --

24 Q. Not as part of your regular duties?

25 A. No. Well, part of the working

1 for -- doing some work for them. But I -- we had
2 the scanning electron microscope, they didn't, in
3 other words. But -- so I would go down there
4 once in a while, but didn't really work there. I
5 worked at our lab.

6 Q. Can you give me a rough idea how
7 many times you went down to The Mound Laboratory?

8 A. Maybe five.

9 Q. I want to go back to the -- to the
10 Exhibit 1 that we were talking about earlier,
11 what you have there.

12 A. Oh, okay.

13 Q. Could you take a look at the
14 description of your job there or the description
15 of your work, maybe, is a better term?

16 A. Here?

17 Q. Have you read that earlier today?

18 A. Yes. Yeah.

19 Q. Okay. And is that accurate as to
20 what you were working on when you were working at
21 The Dayton Laboratory?

22 A. Yes.

23 Q. Okay. I've heard the term pilot
24 plant in reference to The Dayton Laboratory.
25 Does that -- are you familiar with that term?

1 A. Yes.

2 Q. Was that something different from
3 the research that was done at Dayton Laboratory,
4 or was that part of the research that was done?

5 A. Well, it's part of the research.
6 When you develop a compound, chemical compound in
7 the lab, it's done in a flask; it's done in a
8 small amount. But to go into production, you
9 have to then develop how to produce it. That's
10 done in a pilot plant, which does a larger
11 amount, basically. And that's what the pilot
12 plant was.

13 So when a -- one of the chemists
14 would develop something, then it was sent to the
15 pilot plant -- later on, if they decided they
16 wanted to manufacture it, then it would go
17 through the pilot plant and develop the
18 manufacturing process, which means you went from
19 a couple liters up into a 2,000 gallons type of
20 operation.

21 Then on the map here I can show you
22 the pilot plant building.

23 Q. I -- actually, that's a great idea,
24 if you could.

25 A. Okay. Look at the map, and look at

1 the top right-hand side up in there, kind of a
2 building that's got a small one-story front to
3 it, then it goes up higher in the back -- or a
4 two-story front, I guess it is. See what I mean?
5 This one right here (indicating).

6 Q. Yeah.

7 A. That's the pilot plant.

8 Q. So we are talking now -- just so
9 everybody, when we go back, we can identify the
10 page, it's MONS00001?

11 A. Yeah.

12 Q. Okay. And you're pointing to a
13 building on the -- on the little picture here, I
14 guess it's an aerial photo?

15 A. Yeah.

16 Q. And did you work in the pilot plant?

17 A. No.

18 Q. Did you develop chemicals in your
19 lab that then became produced in the pilot plant?

20 A. No. No.

21 Q. That was totally different?

22 A. That was -- other -- other chemists
23 did that.

24 Q. Okay. Did you ever -- did you ever
25 go to the pilot plant?

1 A. Oh, yeah.

2 Q. Okay. Another exhibit for you,
3 which I'm going to ask the court reporter to mark
4 as Exhibit 2.

5 (Thereupon, Plaintiffs' Exhibit 2,
6 Figure 3, Location of Chemical Storage,
7 MONS01544, was marked for purposes of
8 identification.)

9 MR. HARBECK: David, this is Bill
10 Harbeck again. The last document, I'm a little
11 bit -- in terms of what it is, I don't know if
12 it's got a date? I don't have the Monsanto
13 documents in front of me; just maybe a very
14 brief, general description? I don't know if it's
15 got a date, is it a memorandum, a brochure,
16 something so I can figure out what you're talking
17 about?

18 MR. ROMINE: Yeah. Well, Monsanto's
19 counsel may be able to describe it better, since
20 it's her document, but I'll give it a shot and
21 then allow her to do so. It looks like a
22 marketing document from about 1970 that -- and in
23 the -- on the cover it says Capability,
24 Experience, Facilities, Personnel. And it looks
25 like it's a marketing document for the Monsanto

1 Research Corporation from about 1970, and Mr.
2 Wurstner's bio.

3 MR. HARBECK: Exhibit 1, you're
4 talking about, or Exhibit 2?

5 MR. ROMINE: Exhibit 1.

6 MR. HARBECK: Okay.

7 MR. ROMINE: And Mr. Wurstner's bio
8 is part of that marketing material.

9 MR. HARBECK: Okay. That's helpful.
10 Thank you.

11 MS. WRIGHT: And just for the
12 record, I don't know if it's a marketing document
13 or why it was even created. I just know that it
14 exists. We are not even sure of the date,
15 roughly.

16 THE WITNESS: It was a lot later
17 because there is a lot missing on here and the
18 building numbers are strange.

19 MS. WRIGHT: Oh, yes. And you're
20 looking at Exhibit 2?

21 THE WITNESS: Oh, that one there?
22 That one is -- oh, it's fairly old, but not that
23 old.

24 BY MR. ROMINE:

25 Q. Yeah. Actually, that's a good idea.

1 Let's go back to Exhibit 1 for just a moment.

2 A. Yeah.

3 Q. And, again, looking at the -- the
4 third page?

5 A. Yeah.

6 Q. It says: Mr. Wurstner has had 19
7 years of experience in research with general
8 optical microscopy, and then it goes on. So it
9 looks like this would have been written --
10 Exhibit 1 would have been written in
11 approximately 1969, 1970?

12 A. Probably about that time, yeah.

13 Q. Okay. Do you remember this
14 document?

15 A. That (indicating)?

16 Q. Yeah.

17 A. No, to tell you the truth.

18 Q. Okay. So you don't remember ever
19 seeing this before?

20 A. No, I don't know who wrote -- could
21 have written that up. I have no idea.

22 Q. Okay. Okay.

23 MR. ROMINE: We are still talking
24 about Exhibit 1 now, for those of you on the
25 phone.

1 BY MR. ROMINE:

2 Q. But now I'm gonna switch and talk to
3 you about Exhibit 2. And according to the date
4 on Exhibit 2, it says March 1992. I realize
5 that's after you left, but I still -- there is a
6 reason why I'm showing this to you.

7 Have you had a chance to take a look
8 at Exhibit 2?

9 A. This (indicating)? Yes.

10 Q. Okay. And the particular question I
11 want to ask you is this: If you take a look at
12 the front of Exhibit 1 there --

13 A. Yeah.

14 Q. -- it shows some buildings in the
15 foreground on Exhibit 1?

16 A. Down here (indicating)?

17 Q. There are some buildings in the
18 foreground toward the left?

19 A. Right.

20 Q. And if you look at Exhibit 2, it
21 doesn't show those buildings anymore?

22 A. Right.

23 Q. Now, were -- what happened to those
24 buildings, is my question.

25 A. That's why I'm looking at this map.

1 Q. Okay.

2 A. That's Building 2 is in here
3 (indicating), Building 2. There are several
4 others -- there is the pilot plant building
5 that's gone (indicating), that's with the tall
6 stack there.

7 Building 3 and 4 seem to be gone. I
8 haven't figured out what this Area 11, Building 8
9 is down here (indicating), unless that was the
10 garage. So that whole area there, apparently,
11 has been torn down.

12 I haven't been across there lately.
13 I'm gonna have to go down one of these days and
14 look. But I think they have torn down an awful
15 lot of it.

16 Q. Okay. So you're saying that on
17 Exhibit 1 the aerial photo shows some buildings,
18 including Buildings 2, 3 and 4?

19 A. Right.

20 Q. But those don't show up on Exhibit
21 2?

22 A. Right.

23 Q. So my question to you is, when you
24 left in 1982, were Buildings 2, 3 and 4 still in
25 existence?

1 A. Oh, yes. Oh, yes, yeah.

2 Q. Okay. All right. And if you look
3 at -- again, Exhibit 2, do you see where
4 almost -- almost in the middle it says Building
5 1?

6 A. (Witness nodding head up and down.)
7 Yes.

8 Q. Okay. And is that your recollection
9 of where Building 1 is?

10 A. That's it. That is Building 1, yes.

11 Q. Okay. Same thing, moving to the
12 right slightly, Building 22?

13 A. Pilot plant.

14 Q. Oh, Building 22 is the pilot plant?

15 A. Was the pilot plant.

16 Q. And moving to the right again,
17 Building 20?

18 A. Oh, I'm sorry, Building 20 is the
19 pilot plant; 22 is the power plant.

20 Q. Oh, the power plant, okay. But is
21 that consistent with your memory of where those
22 buildings were?

23 A. Those two, yes.

24 Q. Okay. And, again, I'm gonna move to
25 the right a little bit more, Building 23?

1 A. That's new.

2 Q. Okay. How about just south of
3 Building 20, there is -- it says Building 26?

4 A. That's new.

5 Q. Okay. And then moving to the left
6 now, there is Building 8, or a building
7 designated as Building 8 to the left of Building
8 1?

9 A. Yes. That was the -- oh, warehouse,
10 I guess you want to call it.

11 Q. Okay.

12 A. Storage area.

13 Q. Okay.

14 A. I think.

15 Q. Okay. No problem. And so going
16 back to Building 1, just above where it says
17 Building 1 there is a notation that says Labs?

18 A. Uh-huh. Off to the side there
19 (indicating)?

20 Q. Yeah. Is that where you worked?

21 A. No.

22 Q. Where did you work?

23 A. Would have been the second floor
24 someplace over here in Building 1.

25 Q. Okay. So you worked in Building 1?

1 A. I started in Building 3, then later
2 I was in Building 1.

3 Q. Okay. But Building 3 is not shown
4 on Exhibit 2 here?

5 A. Not anymore.

6 Q. Okay. And then you were -- then you
7 went over to Building 1 at some point?

8 A. Correct.

9 Q. Okay. When was that?

10 A. You mentioned Building 20 --

11 THE NOTARY: Sir, I couldn't hear
12 you.

13 THE WITNESS: I'm thinking.

14 I think for a little while I was up
15 on that portion at the front, where you see the
16 front of that pilot plant building, on the second
17 floor. I think we were in a lab in there for a
18 little while, and then went to Building 1 from
19 there. And that would have been someplace in the
20 late '60s probably.

21 BY MR. ROMINE:

22 Q. Okay.

23 A. Or middle '60s, I guess.

24 Q. And then you stayed there until you
25 retired?

1 A. Yeah --

2 Q. Okay.

3 A. Well, no. After we quit doing
4 microscopy, I did some other work. And I was
5 out -- would be either -- whether it was Area 13
6 or 12, someplace, there was a building back there
7 which I think also doesn't exist anymore, from
8 what I can see here.

9 Q. Okay. Okay. All right. So -- and,
10 again, correct me if I'm wrong. I just want to
11 get an idea, make sure I'm understanding it. You
12 started out in Building 3?

13 A. Correct.

14 Q. Which is not shown on Exhibit 2?

15 A. Correct.

16 Q. And then at some point you may have
17 gone to the -- or let me put it this way: At
18 some point you did go to the pilot plant?

19 A. Yeah, but not -- in the front of
20 that building there was the labs in there, but
21 not too long.

22 Q. And is that Building 20, then, on
23 Exhibit 2?

24 A. It would be Building 20.

25 Q. But not too long?

1 A. Yeah.

2 Q. And then you went to Building --

3 A. One.

4 Q. -- 1. And that was approximately in
5 the mid to late '60s?

6 A. Yeah.

7 Q. Okay. And you spent the majority of
8 the rest of your career --

9 A. Up until about, let's say, '79 or
10 '80, '79 or '80.

11 Q. Okay. And then you went someplace
12 to a building that may not appear here on Exhibit
13 2?

14 A. Yeah.

15 Q. But north?

16 A. Right.

17 Q. Okay. All right. Thank you.

18 Who is George Richardson?

19 A. He was an organic chemist that
20 worked at the lab.

21 Q. And did you work with him, or he was
22 just a coworker?

23 A. No. No.

24 Q. All right.

25 A. I didn't work with him. He was --

1 Q. Okay. Are you okay? Do you need a
2 break?

3 A. No, I'm fine.

4 Q. Were you aware of the South Dayton
5 Dump when you worked at Monsanto?

6 A. Passed it every day when I went to
7 work.

8 Q. Okay. So where did you live when
9 you worked at the lab?

10 A. Well, first, I lived in the east end
11 off of Wayne Avenue, Margaret Street. And then I
12 lived in -- well, for a bit in Kettering, and
13 then Oakwood.

14 Q. Okay. And what was the route that
15 you took to work, like why did you pass it?

16 A. Came over Carillon Boulevard, and
17 then passed the DP&L plant, and then up the road
18 there across the bridge to Monsanto.

19 Q. Okay.

20 A. If you had -- you don't have a map
21 of it, though?

22 Q. So it sounds to me like -- I'm not
23 that familiar with Dayton, but it sounds to me
24 like you lived roughly south of where the
25 plant -- or excuse me, where the --

1 A. Oh, yes, yes.

2 Q. Where The Dayton Lab was?

3 A. Yes.

4 Q. Okay. And when you say you passed
5 it every day on your way to work, how did you
6 know that the dump was there?

7 A. It was pretty obvious.

8 Q. Tell me why it was obvious to you.
9 You could see it, you could smell it; what was
10 obvious?

11 A. Well, you would see them hauling
12 stuff in there all the time. General Motors used
13 to haul pallets in there by the truckloads.

14 Q. Okay.

15 A. Then they burned the pallets.

16 Q. Was there any waste that was sent
17 from the Monsanto Research Corporation to the
18 South Dayton Dump?

19 A. Only what Richardson had burned out
20 there. Anything -- I don't know if anything else
21 was sent there. I don't know what they did with
22 the waste. I had no --

23 Q. Okay. Let me back you up there.
24 When you say what Richardson burned out there,
25 you're talking about George Richardson?

1 A. Right.

2 Q. And tell me about George Richardson
3 and the waste and the burning out there.

4 A. Well, behind Building 1 there was a
5 set of what they called high-pressure cells. And
6 he wanted to use one, and they had -- somebody
7 put a bunch of bottles of chemicals back there to
8 get rid of them. And for him to use it, he had
9 to get rid of the chemicals.

10 Well, being an organic chemist, he
11 knew -- looked at it and said, well, burning is
12 the only -- best way -- easiest to get rid of it.
13 So he went over to the dump and built a big fire
14 in the pit down there, where they burned all the
15 pallets, and threw the chemicals in the fire and
16 burned them. Basically, that was it.

17 Q. How do you know -- how do you know
18 that he did this? Did he tell you?

19 A. Well, no, I went over to watch and
20 see what he was doing one day.

21 Q. You went with him?

22 A. He only spent about two days doing
23 that.

24 Q. Okay. And this was at the South
25 Dayton Dump?

1 A. Yes.

2 Q. Okay. Now, so you went with him,
3 and he put the chemicals in a pit that was, I
4 take it -- and correct me if I'm wrong -- it was
5 already being used for burning something?

6 A. Yeah.

7 Q. And he put the chemicals in there
8 and they were burned?

9 A. Well, he built -- in this pit, he
10 built a horrendous fire with pallets, very hot
11 fire. And he would open the bottle and throw it
12 in, or at least loosen the cap and throw the
13 bottle in the fire.

14 Q. And this happened like a couple
15 times?

16 A. Well, he spent about -- the better
17 part of two days doing it.

18 Q. And --

19 A. The amount of stuff he put in there
20 probably was maybe -- I doubt if you could fill a
21 drum with it.

22 Q. Over the course of both days?

23 A. Right.

24 Q. Okay.

25 A. It was -- because the bottles

1 weren't full, they were (indicating).

2 Q. I understand. It's a laboratory.

3 A. Yeah.

4 Q. And where did the pallets come from?

5 A. Probably -- well, I think that was
6 whoever was dumping them there, General Motors
7 or -- I know a lot of them came from what was
8 Delco Brake, which was a -- became a Delphi
9 plant, then, over not too far away.

10 Q. So you took what you found there in
11 terms of the pallets and you burned those?

12 A. Oh, yeah. He just built the stuff
13 out of what was there, didn't take anything from
14 our place.

15 Q. And why did you go -- why did you go
16 with him that one time?

17 A. Well, I was chief of the emergency
18 brigade at the lab, if you want to call it that.
19 Which if you had a fire there, the Dayton Fire
20 Department was glad to come out on the road and
21 sit there and watch you put it out, but they --
22 they did not want to get involved. So --

23 Q. Why, because of the chemicals?

24 A. Yeah.

25 Q. I see.

1 A. Well, they didn't know how -- fire
2 departments don't know how to handle chemicals,
3 put it that way. And so I just went over to see
4 what he was doing in case I had to do something.
5 After our nurse died -- I had been on the ski
6 patrol, and I was a -- an instructor of advanced
7 first aid. So I kind of had the job of maybe if
8 somebody got hurt, you know, or anything.

9 And I went over to see -- you know,
10 make sure he was not gonna hurt himself. But he
11 was pretty -- he was very well -- well, an
12 advanced chemist. He knew what he was doing.

13 Q. What specifically were the chemicals
14 that he was burning?

15 A. I would say it was practically all
16 organic. I don't think there was any inorganic
17 chemicals in that place.

18 Q. Other than that, you don't know?

19 A. I don't know.

20 Q. But you say that because he was an
21 organic chemist --

22 A. Well --

23 Q. -- or did you know that the stuff
24 was organic?

25 A. Well, I -- I don't know for sure

1 that it was all organic, but I don't remember
2 that -- anybody working on any projects where
3 they would have used inorganic chemicals, to
4 speak of. I mean, almost all the work was done
5 with organic chemicals. And he chose to burn
6 them because organics burned nicely.

7 And the reason they were in that
8 cell, I think, is because most of them were a
9 little hazardous. In other words, it could have
10 been a lot of peroxides in that, which have a
11 tendency to decompose on their own.

12 Q. When was that?

13 A. Now you're -- now you got me.

14 Q. No problem.

15 A. Roughly, I would say, maybe '75.

16 Q. Okay. Now, you said -- and, again,
17 correct me if I'm wrong -- you said that you --
18 you feel that these were organic chemicals
19 because most of the work was done on organic
20 chemicals, as opposed to inorganic?

21 A. Almost all the work, yeah.

22 Q. Are you talking generally of MRC,
23 Monsanto Research Corporation?

24 A. Yes.

25 Q. So MRC generally dealt much more

1 with organics than with inorganics?

2 A. (Witness nodding head up and down.)

3 Q. Yes?

4 A. Yes.

5 Q. Okay.

6 A. That's right, you can't see my head
7 shaking. Sorry.

8 Q. Yes. Was -- were there otherwise
9 chemicals that were generated as part of -- of
10 MRC's work, other than -- other than these
11 chemicals you just told me about that George
12 Richardson --

13 A. Well, yes, I guess.

14 Q. Okay. And how were those disposed
15 of?

16 A. I have no idea.

17 Q. Okay.

18 A. That was -- I -- probably at some --
19 there were companies that would take and recycle
20 that stuff.

21 Q. But you didn't deal with that?

22 A. I didn't deal -- have anything to do
23 with that, no.

24 Q. Okay. Who did?

25 A. Probably purchasing.

1 Q. Do you remember anybody from the
2 purchasing department?

3 A. The girl -- one name of a girl who
4 would probably have absolutely no idea about it,
5 Geiger. I can't remember the purchasing agent's
6 name. I have been trying to think of it for
7 several days, and I cannot for the life of me
8 remember it.

9 Q. No problem. But there was a woman
10 named Geiger?

11 A. Yeah.

12 Q. Like a Geiger counter?

13 A. I guess. There were two of them.
14 The one that I know of that's living right now
15 was not this one.

16 Q. Was not Geiger?

17 A. No, her name is Geiger, but it's not
18 this Geiger.

19 Q. Okay. There were two Geigers?

20 A. Yeah.

21 Q. Okay. Sorry about that.

22 A. But that's the only name in
23 purchasing I can think of. And she would have no
24 idea of anything like that.

25 Q. Okay. And both Geigers were women?

1 A. Yeah.

2 Q. Okay.

3 A. Yeah.

4 Q. Were they related?

5 A. Sister-in-laws.

6 Q. Sisters-in-law. Okay. Where does
7 the living one live?

8 A. I don't know.

9 Q. Okay.

10 A. I don't know.

11 Q. Okay.

12 A. I want to think north someplace, but
13 I don't -- I don't know.

14 Q. Okay. Why was it special for -- for
15 George Richardson to dispose of these chemicals
16 in this way?

17 A. I think he wanted to run a reaction
18 in the cell and was told if he wanted to do it,
19 he was gonna have to clean the cell out. So
20 that's what the answer to that would probably be,
21 that's why.

22 Q. It seems like George Richardson
23 had -- he had to dispose of this particular batch
24 of chemicals somehow?

25 A. Yeah.

1 Q. But why weren't all chemicals
2 disposed of in this way?

3 A. Really, I -- I don't know. I
4 have -- I just -- I have no idea of how they did
5 it or what they did.

6 Q. Okay. But Richardson did this
7 special project for whatever reason?

8 A. Yeah.

9 Q. And he was told, if you want to do
10 this special project, you have gotta be
11 responsible --

12 A. If you want to use the cell, you're
13 gonna have to clean it out. When I'm talking
14 about a high-pressure cell, it's basically a room
15 with four walls, and the seals are very heavy,
16 thick; and then the -- a fourth wall was some
17 light thing, and then there was another wall
18 behind it. And if you had an explosion, then it
19 would blow that one wall out, but it wouldn't
20 blow up the building.

21 So he was probably gonna work on
22 something that was sensitive, and so he wanted to
23 set it up in there. That was the only -- would
24 be the reason for it, why he was doing it, and he
25 needed to clean it out. And they had a building

1 back there behind Building 1 that had these --
2 several of these cells in it.

3 Q. If you take a look at Exhibit 2,
4 which is the diagram --

5 A. Uh-huh. Uh-huh.

6 Q. -- are the -- is the place where the
7 cell was, or the cells were, is that notated on
8 here, or is that no longer -- no longer part --

9 A. They are not there. But this Area
10 13 would probably be about where that building
11 was.

12 Q. Okay. Aside from chemicals, what
13 happened to the -- not necessarily including
14 chemicals, but what happened to the trash that
15 was generated by The Dayton Lab or MRC?

16 A. Well, there was a trash truck that
17 used to come in there and pick it up daily.

18 Q. And what company was the trash truck
19 from?

20 A. I don't know. I have no idea.

21 Q. Do you remember what color it was?

22 A. I don't know. Gray, I guess, but
23 I --

24 Q. Okay. And it would come every day?

25 A. Pretty much so, I think so, yeah.

1 Q. And where was the trash kept before
2 the truck came to pick it up?

3 A. All I know is -- I don't know. All
4 I know is it pulled in there one day and it was
5 burning, and we had to put the fire out. So
6 that's the best that I could answer on that. But
7 he started burning before he got there.

8 Q. But this was an accident?

9 A. Yeah, they dumped something in the
10 trash truck that caught -- reacted and caught on
11 fire, wherever he got it before he came to
12 Monsanto, and when he pulled in it was burning.

13 Q. Oh, the trash truck was burning?

14 A. Yeah.

15 Q. Oh, I see.

16 A. And we had to put it out.

17 Q. So if you could look on Exhibit 2,
18 the diagram, where was -- where did the trash
19 truck come to? Where was the trash?

20 A. Well, it would have either been next
21 to Building 1 and behind Building 2, if you look
22 at the -- it doesn't show. But there was a road
23 that came around that would get over up to here
24 (indicating).

25 Q. Okay. So it was both places?

1 A. Yeah, basically, I guess. I never
2 paid that much attention, so --

3 Q. I understand. So there was a place
4 next to Building 1?

5 A. Well, it was just like a park --
6 like a driveway or so, I mean --

7 Q. Okay. And what was it? Was it a
8 dumpster, was it a bin; what kind of container
9 was it?

10 A. I don't know. I never paid that
11 much attention. I don't know what they dumped it
12 from.

13 There was an incinerator back there
14 at one time, but that's why I can't figure out
15 this picture because that stack is still on it,
16 and that was torn down, so I don't know.

17 Q. I understand. So -- okay. So was
18 the incinerator used specifically for burning
19 trash?

20 A. It would be classified documents,
21 mostly --

22 Q. Okay.

23 A. -- what it was for.

24 Q. I see.

25 A. What was burned in there.

1 Q. I see. So in terms of just regular
2 trash disposal -- and, again, correct me if I'm
3 wrong -- there was a truck that came and picked
4 up the trash from the very -- from when you
5 started there?

6 A. Yeah, I guess.

7 Q. Okay. And when you worked on the
8 coal dust, for example, how did that -- when you
9 were done studying the coal dust, what happened
10 to the coal dust?

11 A. Well, probably, most of it went in
12 the wastebasket, I would guess.

13 Q. Okay.

14 A. I mean, how much coal dust does it
15 take on a microscope?

16 Q. I understand. So the volume you had
17 was small?

18 A. Nil.

19 Q. And how about the asbestos?

20 A. Very, very little, because that
21 would be on a filter about maybe three-eighths of
22 an inch in diameter.

23 Q. Yeah.

24 A. Or -- well, a centimeter maybe, and
25 it would be on that filter. And you put a

1 solution on the filter that would make it
2 transparent, and then studied it -- the stuff
3 that's on it. So -- and that would be on a
4 microscope slide.

5 Q. And when you were done with that,
6 what happened to it?

7 A. Most probably just threw the slides
8 out.

9 Q. Okay. Going back to the pilot plant
10 for a minute --

11 A. (Witness nodding head up and down.)

12 Q. -- so the pilot plant produced
13 relatively small quantities of chemicals that may
14 at some future date have gone into full
15 production?

16 A. Right.

17 Q. What happened to those small
18 quantities of chemicals?

19 A. I don't know what -- I think there
20 was some company would come in and pick up a
21 lot -- some of that stuff, and then it was taken
22 and distilled or recycled. But I don't know who
23 it would have been. I mean --

24 Q. Do you remember separate vehicles
25 coming from that company?

1 A. Well, once in a while you would see
2 a tanker come in, but I don't know who they were
3 or anything. I don't know if that was something
4 they were delivering to St. Louis or what it was.

5 Q. Okay. Show you one more exhibit,
6 which I'm gonna mark as Exhibit 3.

7 (Thereupon, Plaintiffs' Exhibit 3,
8 Inter-Office Correspondence dated 5-9-1977,
9 MONS01820-01822, was marked for purposes of
10 identification.)

11 BY MR. ROMINE:

12 Q. This is -- this is a -- a three-page
13 memo, but -- and, please, you're welcome to read
14 the whole thing, but I'm just gonna concentrate
15 on the last paragraph of the first page here.

16 A. Well, I don't know where it came
17 from, but it's not true.

18 Q. Okay. When you say -- what's that?

19 A. I said it's not true. I was not
20 responsible for it.

21 Q. That's what I was going to ask you.
22 Okay. So, again, just so everything is on the
23 record here and the court reporter knows what we
24 are talking about, down at the bottom of the --
25 at the bottom of the first page, it says prior to

1 1974 --

2 A. Uh-huh.

3 Q. -- Al Wurstner -- and that's you?

4 A. Yes.

5 Q. -- was the principal person involved
6 in the disposal of laboratory-generated waste
7 chemicals. And so you're saying to me right now
8 that's not true?

9 A. No. No.

10 Q. Okay.

11 A. No. As I say --

12 Q. Have you seen this memo before?

13 A. No.

14 Q. Okay. So was there a person, like
15 when you were working there, was there a person
16 that you knew was designated as the person
17 primarily responsible for the disposal of
18 laboratory-generated waste chemicals?

19 A. No, I don't know who it -- who was
20 responsible, I'll put it that way.

21 Q. Okay. That's fine.

22 MR. ROMINE: Off the record for a
23 second.

24 (Brief recess taken.)

25 MR. ROMINE: Other than Mr. Nes and

1 Mr. Harbeck, is there anybody else on the phone?

2 MR. WINELAND: Erik Wineland.

3 MR. ROMINE: Okay. Back on the
4 record.

5 BY MR. ROMINE:

6 Q. Mr. Wurstner, before the break we --
7 I had showed you Exhibit 3.

8 A. Uh-huh.

9 Q. And you had mentioned that it's
10 wrong in that you were not the principal person?

11 A. Correct.

12 Q. Okay. Up at the top of the memo it
13 lists some people who got the memo cc. One is
14 R. K. Flitcraft. Do you remember Mr. Flitcraft?

15 A. Yeah. He was the president.

16 Q. He was the president?

17 A. Of MRC, not Monsanto, but MRC.

18 Q. Okay. And he worked at the
19 Dayton -- the Nicholas Road facility?

20 A. Yeah, he was running -- I think so,
21 yeah.

22 Q. Okay. But, I mean, his -- he wasn't
23 like in St. Louis or anyplace; his main office
24 was in Dayton?

25 A. I think he was at The Lab.

1 Q. Okay.

2 A. I knew him, but I can't -- I don't
3 remember.

4 Q. Fair enough.

5 A. Don't remember where his office was,
6 no.

7 Q. Okay. Who -- who was the president
8 of MRC before Mr. Flitcraft?

9 A. Whew. Really, I can't remember.

10 Q. That's okay. How about T. Beal?
11 There is another name listed here --

12 A. He worked in the -- maintenance.

13 Q. In maintenance?

14 A. Yeah.

15 Q. Okay. So he wasn't a chemist, or
16 was he?

17 A. No.

18 Q. Okay. And what was his first name?

19 A. (Indicating.)

20 Q. That's okay.

21 A. I can't -- I'm terrible with names,
22 to tell you the truth.

23 Q. That's okay. So Mr. Beal was in the
24 maintenance department?

25 A. Yes.

1 Q. Was he in charge of disposing of
2 trash?

3 A. Not that I know of. But maybe he
4 was, I don't know.

5 Q. Okay. Do you ever -- do you
6 remember of any -- of any incidents where Mr.
7 Beal disposed of any trash?

8 A. No idea, no.

9 Q. Or burned any trash?

10 A. No.

11 Q. Okay. Going back to Mr.
12 Richardson --

13 A. Yeah.

14 Q. -- other than the -- the couple days
15 you told me about --

16 A. Yeah.

17 Q. -- where he went to the South Dayton
18 Dump --

19 A. Yeah.

20 Q. -- were there any other instances
21 where you remember Mr. Richardson disposed of any
22 waste?

23 A. No.

24 Q. Okay. How about anybody else at
25 MRC?

1 A. Individual at this point, not that
2 I -- not that I know of.

3 Q. Okay. And going back to -- using a
4 different name now, going back to when it was
5 called Dayton Labs or Dayton Laboratories, do you
6 remember anyone else disposing of any chemical
7 waste or any waste, like individual --

8 A. I don't know how it was done right
9 now.

10 Q. How about yourself, did you ever
11 dispose of waste, other than just throwing it in
12 the trash can?

13 A. No.

14 Q. Okay.

15 A. Any other system?

16 Q. Right.

17 A. No. No.

18 Q. Okay.

19 A. The only thing was going over there
20 with George on that first day to see what he was
21 doing, and that was -- that was it.

22 Q. And then he went another day?

23 A. Yeah. I think somebody told me once
24 to get the permit from EPA, and I think I got the
25 permit from them.

1 Q. You got a permit?

2 A. Yeah. That was approved by EPA,
3 what George was doing.

4 Q. Okay. To burn?

5 A. Yeah.

6 Q. Okay.

7 A. In fact, the EPA man was over there
8 that first time when I went.

9 Q. He went with you?

10 A. Well, he was there, he was at the
11 dump at the time.

12 Q. He was already --

13 A. Doing something else, I think.

14 Q. Okay.

15 A. And I can't remember his name. I
16 think he quit the EPA to build a -- to start a
17 bicycle shop. That's as far as I can remember.

18 Q. Okay.

19 A. And I don't remember his name.

20 Q. That's a good thing to do in Dayton.

21 A. Yeah.

22 Q. Before the break you had told me
23 about a truck coming to pick up the trash. Do
24 you remember of any change in companies or
25 anything like that involved --

1 A. No.

2 Q. -- with picking up the trash?

3 A. I don't know. That probably came
4 under the purchasing department would do the
5 contracts for that.

6 Q. Okay.

7 A. So --

8 Q. Okay. I thank you.

9 MR. ROMINE: I pass the witness.

10 MS. WRIGHT: All righty. Mr.

11 Wurstner, I think I only have a few questions for
12 you.

13 DIRECT EXAMINATION

14 BY MS. WRIGHT:

15 Q. When we were looking at -- earlier,
16 on Exhibit 2, which is that 1992 map of the site,
17 and comparing that to Exhibit 1, you noticed that
18 there -- some of the buildings were gone and some
19 new buildings were there; is that correct?

20 A. Yes, that's very correct.

21 Q. Were you involved in any of the
22 demolition of any of these buildings?

23 A. No. They were there when I left.

24 Q. Okay. So you really don't have any
25 knowledge of what happened to the buildings and

1 when?

2 A. Well, the only -- one knowledge I do
3 have, if you look at Building 2, and this north
4 wing down here (indicating) --

5 Q. Uh-huh.

6 A. -- they made nuclear -- things for
7 starting submarines, the nuclear plant on the
8 submarine, the rods, they made them in there.

9 Q. Uh-huh.

10 A. And that -- that section is back in
11 there (indicating). And I think that may have
12 been taken down to Tennessee and buried.

13 Q. Okay.

14 A. Because anything they ever borrowed
15 from you never came back because they -- they
16 messed it up, so --

17 Q. Okay. And then I have another
18 question, this may be my last one, when you
19 testified about the two days when Mr.

20 Richardson --

21 A. Yeah.

22 Q. -- disposed of the chemicals, and
23 you said that you doubted there were enough
24 chemicals to fill a drum, were you referring to a
25 55-gallon drum size?

1 A. Yes. Yeah.

2 Q. Okay. So just to be clear, the
3 amount -- total amount of chemicals was less than
4 would fill a 55-gallon drum?

5 A. Well, I would --

6 Q. Guessing, I know, your best
7 guess.

8 A. I would put it this way: Very
9 doubtful that you could get a hundred
10 gallons out of the whole thing if you worked
11 on it.

12 Q. Okay.

13 A. So 55-gallon drum would probably
14 have been a pretty good estimate, but may
15 have been a little more than that, you know.

16 Q. Okay. All righty.

17 MS. WRIGHT: I think that's all I
18 have.

19 Anybody else?

20 MS. SMARDA: I have no questions on
21 behalf of Cox Media Group.

22 MR. ROMINE: Anyone on the
23 telephone?

24 MR. HARBECK: This is Bill Harbeck.
25 I just have a couple questions.

CROSS-EXAMINATION

BY MR. HARBECK:

Q. Good morning, Mr. Wurstner.

A. Yes.

Q. I hope you can hear me okay.

A. Yeah.

Q. Could you tell me where the Dayton Lab was in terms of its proximity to the South Dayton Dump? I think you said you lived south of it and then would pass it every day; so was the Dayton Lab north of the South Dayton Dump?

A. I would say a little -- a few degrees off of -- northwest off of north. If you -- do you have a map there?

Q. I don't. I'm a little -- I'm sort of familiar with it, based upon some other depositions.

A. Okay. Well, where Nicholas Road comes through, the Miami River runs practically next to it for a ways, and then it turns. And if you went on the other side of the river, that's where the dump was, basically. So I would say roughly north of the dump, but a little bit west too.

Q. That's where the Dayton Lab facility

1 was located?

2 A. Yes.

3 Q. Okay. And approximately how far?

4 A. A thousand yards, if that far.

5 Q. Okay.

6 A. In a straight line.

7 Q. I'm sorry, you said a straight line,
8 a thousand yards?

9 A. Yeah. No more than that, if that
10 much.

11 Q. When you passed it, what road were
12 you traveling -- when you passed the South Dayton
13 Dump, what road were you traveling on?

14 A. Oh, what the heck is the name of
15 that road? I can't think of the name of it, but
16 it -- it comes over the bridge there. Broadway
17 stops at the bridge, over the side of the bridge,
18 and that road would start. One side of it was
19 the Dayton Power and Light -- well -- and the far
20 side was the dump; and there is some other stuff
21 in there, some other buildings. The dump was
22 back a ways.

23 Q. Does Dryden Road or Springboro sound
24 familiar?

25 A. Dryden Road, Springboro Pike, yeah.

1 Q. Would you be traveling north, then,
2 on Dryden Road, as you were heading to work every
3 day to the Dayton Lab?

4 A. Yeah, for about a block.

5 Q. And then you would turn onto
6 Nicholas Road?

7 A. Correct, turn left; cross the bridge
8 and turn left.

9 Q. Okay. When you crossed the bridge,
10 were you going over the river?

11 A. Yes.

12 Q. Okay. So it was just on the -- the
13 Dayton Lab was just on the north side of the
14 Miami River?

15 A. Yes.

16 Q. Okay.

17 A. The river makes a turn along there,
18 but it's the north side.

19 Q. Okay. When you went by the dump,
20 did you ever see any vehicles from NCR going in
21 and out of the dump?

22 A. Not to my knowledge.

23 Q. Okay. How about a company called
24 the Dayton Walther Company; did you ever see any
25 vehicles from that company going into or out of

1 the dump?

2 A. Not -- nothing that -- in my memory.

3 I mean, maybe, you know.

4 Q. Okay. Fair enough. And how about
5 from a company named Hobart?

6 A. Not to my knowledge, no.

7 Q. Okay. Okay.

8 MR. HARBECK: That's all the
9 questions I had. Thank you very much.

10 MR. ROMINE: I do have a couple
11 follow-up. One address we have is --

12 MR. NES: Wait, wait, wait. Before
13 we get to that, this is Brad Nes, for P-Americas.
14 I have no questions.

15 MR. ROMINE: Sure.

16 MR. WINELAND: Erik Wineland, for
17 the Sherwin-Williams Company. I have no
18 questions.

19 MR. ROMINE: Sure. Thank you.

20 RECROSS-EXAMINATION

21 BY MR. ROMINE:

22 Q. One address we have is 1515 Nicholas
23 Road. Is that the correct address for the plant?

24 A. I'm pretty sure you're right.

25 That's it, yeah.

1 Q. Okay. And then when Ms. Wright had
2 asked you a question about the demolition of the
3 buildings, I think you had said that in the old
4 Building 2 they had made some -- they had made
5 some equipment for nuclear-powered submarines?

6 A. Right. Yeah.

7 Q. And that as a consequence, there was
8 some, I guess, radioactive material there?

9 A. When they tore the building down,
10 they probably buried it.

11 Q. Okay. And you said -- I think you
12 said they probably buried it in Tennessee. And
13 are you referring to some kind of disposal
14 specifically for nuclear -- for radioactive
15 material?

16 A. Yeah. What's the --

17 Q. Oak Ridge or --

18 A. Is it Oak Ridge in Tennessee? Yeah,
19 that would be it, yeah. Yeah, that --
20 particularly that -- that sounds --

21 MR. ROMINE: Okay. That's all the
22 follow-up I have.

23 I don't know if you want to --

24 MS. WRIGHT: No, I have no further
25 questions.

1 Did I miss anything?

2 MS. BAIRD: No.

3 MR. ROMINE: Anybody on the phone?

4 (No response.)

5 MR. ROMINE: Okay. Well, thank you
6 very much for coming in, Mr. Wurstner.

7 THE WITNESS: Sure.

8 MS. WRIGHT: All righty. We are
9 going to hang up, guys.

10 (The notary interrupted.)

11 MS. WRIGHT: Do you want to read and
12 sign? She will send you the transcript and you
13 can read it, and if there are any spelling errors
14 or anything, you can correct them; or do you just
15 want to let me take it? Either way.

16 THE WITNESS: Well, if you could --
17 you can do the spelling as well as I can.

18 MS. WRIGHT: Okay. I can't change
19 them, though. You would have to change them.

20 THE WITNESS: Well, if you take --
21 you can send me a copy or something.

22 MS. WRIGHT: Yeah, that works. That
23 works.

24 (Thereupon, the deposition was
25 concluded at 11:32 o'clock a.m.)

I, ALAN L. WURSTNER, do hereby
certify that the foregoing is a true and accurate
transcription of my testimony.

Dated -----

1 STATE OF OHIO)

2 COUNTY OF MONTGOMERY) SS: CERTIFICATE

3 I, Beverly W. Dillman, a Notary Public
4 within and for the State of Ohio, duly
5 commissioned and qualified,

6 DO HEREBY CERTIFY that the above-named
7 ALAN L. WURSTNER, was by me first duly sworn to
8 testify the truth, the whole truth and nothing
9 but the truth.

10 Said testimony was reduced to writing by
11 me stenographically in the presence of the
12 witness and thereafter reduced to typewriting.

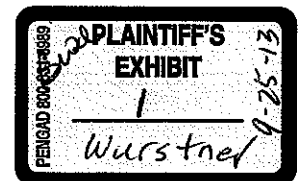
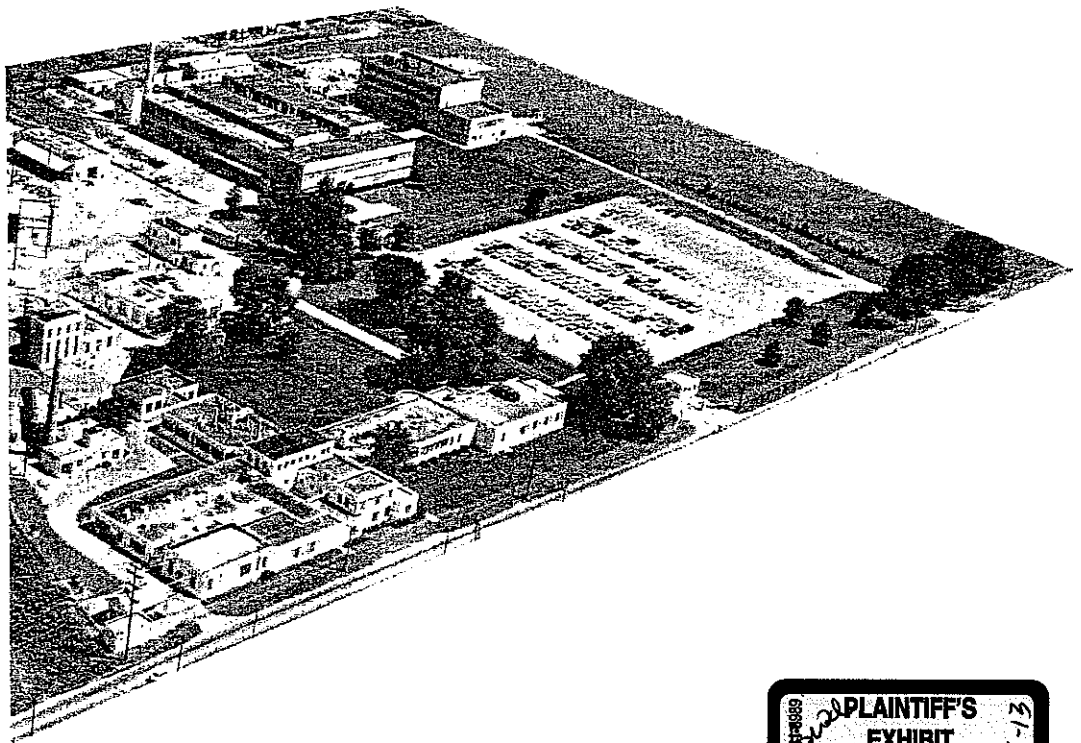
13 I FURTHER CERTIFY that I am not a
14 relative or Attorney of either party, in any
15 manner interested in the event of this action,
16 nor am I, or the court reporting firm with which
17 I am affiliated, under a contract as defined in
18 Civil Rule 28(D).

1 IN WITNESS WHEREOF, I have hereunto
2 set my hand and seal of office at Dayton, Ohio,
3 on this _____ day of _____, 2013.

4
5 _____
6 BEVERLY W. DILLMAN, RPR, CRR
7 NOTARY PUBLIC, STATE OF OHIO
8 My commission expires 3-6-2017
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CAPABILITY

- EXPERIENCE
- FACILITIES
- PERSONNEL



MONSANTO RESEARCH CORPORATION
DAYTON LABORATORY
DAYTON, OHIO 45407

MONS00001

CAPABILITY

- Experience
- Facilities
- Personnel



MONSANTO RESEARCH CORPORATION
Dayton Laboratory, Dayton Ohio 45407

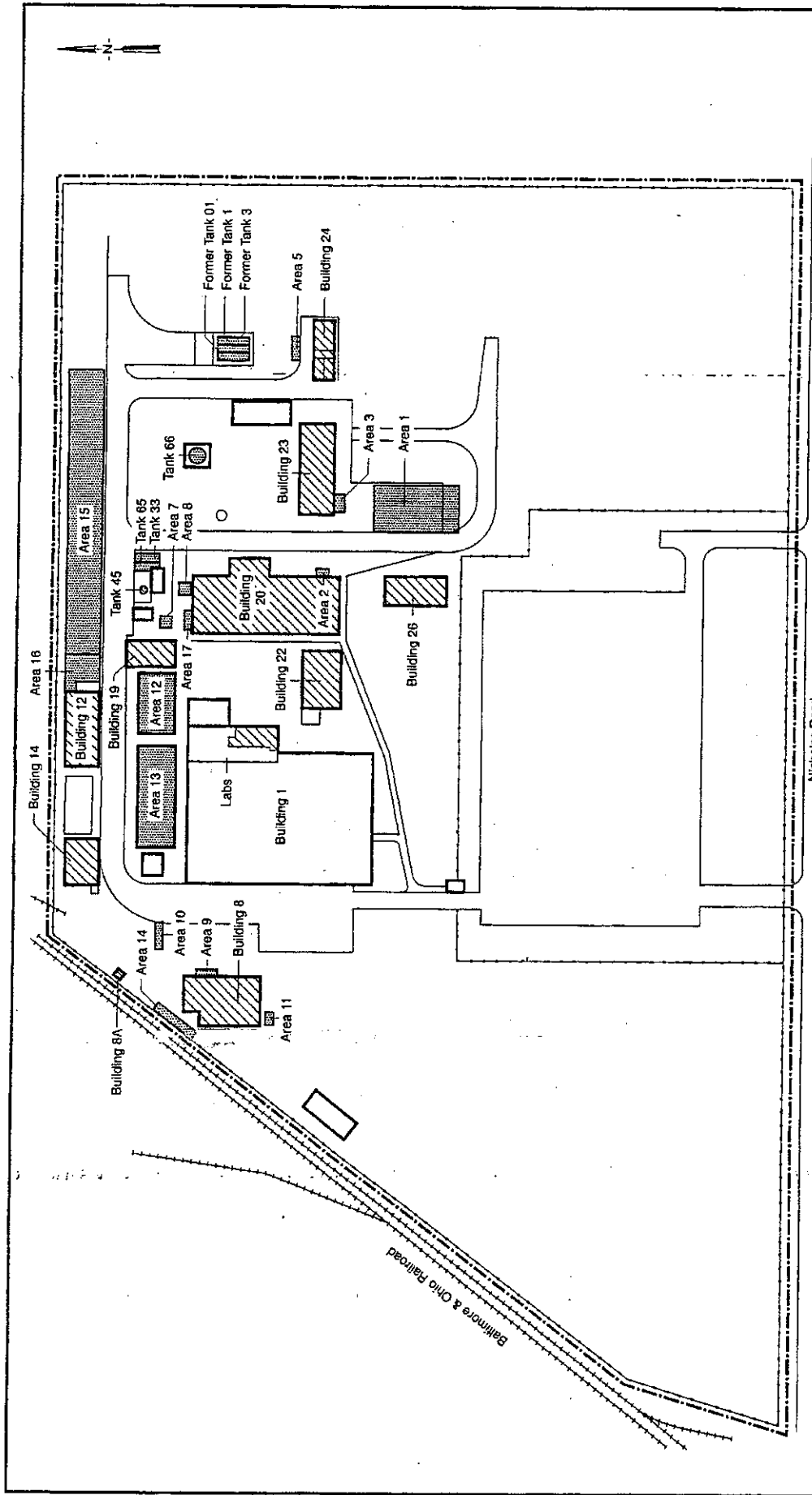


MR. ALAN L. WURSTNER

Mr. Wurstner has had 19 years of experience in research with general optical microscopy, scanning electron microscopy, microtomy and micrurgy, polymer physics, physical chemistry, and polymer compounding and applications.

Major researches have included: morphology and phase studies of polycaprolactam; morphology of isotactic polystyrene; phase diagrams of binary organic systems via microscopy; the factors affecting the receptivity of polymers to high filler loading; sintering rate studies of finely divided organic solids via micrurgical techniques; particle size and distribution of fine powders; morphology of composite materials via scanning electron and optical microscopy; microscopic identification of aircraft fuel contaminants; compatibility of blends of jet fuel and urethane rubber via microscopical techniques; production and measurements of micro-openings for flow measurements; destaticization of textile fibers; design and construction of apparatus and instrumentation for the determination of the molecular weight of high polymers via freezing point depression and boiling point elevation; general physical testing of polymers; compounding, evaluation, and testing of solvent resistant rubbers; and processing and polyblending of polymers.

Mr. Wurstner is a co-developer of the Monsanto MICRON ORIFICE which won the Industrial Research IR-100 1969 competition, and the 1969 "Seven Engineering Wonders of Ohio" award by the Ohio Society of Professional Engineers.



QUALITY CHEMICALS, INC.
 Subsidiary of First Chemical Corporation
 Dayton, Ohio Plant

FIGURE 3
LOCATION OF CHEMICAL
STORAGE

Job No. 24667-301-121
 Darius & Meurs

0 100 200
 APPROXIMATE SCALE IN FEET

BASE MAP SOURCE: Modified from
 Monsanto Agricultural Company Engineering
 Department, St. Louis, Missouri, Plot Plan,
 Drawing No. S-D-C-047, March 1992.

9-25-13
 PLAINTIFF'S
 EXHIBIT
 2
 Wurster

MONSANTO RESEARCH CORPORATION

Inter-Office Correspondence

From LOCATION : Dayton Laboratory

cc: R. K. Flitcraft
T. Beal
File

DATE : May 9, 1977

SUBJECT : Handling Dayton Laboratory Waste Chemicals

REFERENCE : How We Handle Laboratory Generated Scraps

TO : R. C. Hart

Past Practice. Prior to 1974, waste generated by individual laboratories was combined with scrap solvents from the pilot plant. These wastes were disposed of by one of the following methods. Drum materials were hauled to a private landfill near Delaware, Ohio. Off spec materials from the pilot plant were on occasion disposed of in a landfill at Seymour, Indiana. Several loads of methanol were sent to American Chemical Services near Chicago, for disposal in an incinerator.

We ceased using the Delaware landfill because it was closed by the State of Ohio. The Seymour, Indiana landfill has not been used for disposing of generated scraps for some time. We stopped sending our scrap methanol to American Chemical Service when Pristeen, Inc. of Cincinnati, got into the market of burning waste chemicals and it was cheaper to go to them. We used Pristeen, Inc. for disposal of several truck loads of drum chemical waste. At about the same time Pristeen got into the business, Industrial Waste Disposal (IWD) got into the market as a hauler for Systems Technology who used a fluidized bed incinerator located in Franklin, Ohio. Due to a pricing advantage, we started using IWD and Systech Incinerator. Shortly thereafter, we ceased using Pristeen. For a period of time, we used IWD exclusively. Then Systech got out of the business and IWD was left with only a landfill in Springfield, Ohio. In 1975, we started using CC Supply who is a middleman for several companies. One of these companies is Custom Industrial Waste Disposal, located in Louisville, Kentucky. Custom Industrial markets a burnable fuel for industry with their primary customers being General Electric in Louisville. Our burnable waste was blended with other burnable waste to make a salable product. Another one of CC Supply's sources is Korad Industries in Pandora, Ohio. We have shipped only scrap methanol to them which they use to make a gasoline antifreeze. Another source is Chemical Recovery Systems, located near Cleveland. These people reclaim our waste for resale. On two occasions, we have disposed of surplus materials through the St. Louis Industrial Waste Exchange. In these cases, only virgin material were disposed of.

Prior to 1974, Al Wurstner was the principle person involved in the disposal of laboratory generated waste chemicals. The pilot plant generated wastes was handled by Dick Juterbock. In 1974, I started



MONS01820

Handling Dayton Laboratory Waste Chemicals
May 9, 1977
Page 2

handling the pilot plant waste problems, as well as the disposal of the over-all laboratory generated waste. This continued until 1976, when Tom Beal took over for laboratory generated waste and I continued to handle the pilot plant waste disposal chores.

Current Practice. Currently, responsibility for disposal of scrap and surplus chemicals rest with the Manager of Technical Services, who has delegated these chores to the Safety Department in lure of and Industrial Hygenist which we don't have.

Current sources for disposing of scrap include the following. Liquid materials are sent to Chemical Recovery, Konalrad, or Custom Industrial. Solid wastes which do not contain heavy metals and meet the EPA requirements for landfill disposal are sent to IWD. Wastes containing heavy materials are still a difficult problem and disposal is done on a case by case basis. Except for the very high costs involved, we could use a chemical landfill at Sheffield, Illinois, owned and operated by Nuclear Engineering Company.

Laboratory generated wastes is currently put into 55-gallon drums and is being held on site until sufficient quantities are generated to make reasonable shipment size.

For all outgoing surplus or scrap chemicals we require the vendor to sign a hazardous substance agreement which simply states they can and will handle the material in a responsible manner. In addition, we have on file EPA approval permits for IWD, Nuclear Engineering, and Custom Industrial.

Future Practice. In the future, we expect to be using the same disposal means; however, we will be visiting all sites to which our materials are transported for personal inspection of their ability to handle these chemicals. On Thursday, May 12, a visit to Konalrad has been arranged, so that we can dispose of the methanol currently ready for disposal. Subsequently, a visit will be made to Chemical Recovery Systems and Custom Industrial. A previous visit has already been made to the IWD, Springfield landfill. If problems arise with the current vendor or is deemed that they are unqualified to handle our waste, we will consult the EPA publication relative to chemical wastes and use approved means and source. As you are aware, I have prepared a general laboratory procedure for the proper handling and storage of waste chemicals. Possibly, this should be expedited so that we have an established procedure.

Handling Dayton Laboratory Waste Chemicals

May 9, 1977

Page 3

In summary, we have used a number of sources to dispose of our scrap chemicals. We are currently using sources which we feel are responsible and are able to handle our waste material either for destruction or reclamation. Before we dispose of any more waste, we will conduct on-site inspection of the sources to assure proper handling of our chemical wastes. A new procedure is in the mill for instructing the laboratory personnel on how to handle and dispose of their scrap chemicals.

R. L. Long

P & D Supervisor

ecc

1 UNITED STATES DISTRICT COURT

2 SOUTHERN DISTRICT OF OHIO

3 WESTERN DIVISION

4 * * *

5 HOBART CORPORATION, et al.,

6 Plaintiffs,

7 vs. CASE NO. 3:13-cv-00115-WHR

8 THE DAYTON POWER AND LIGHT

9 COMPANY, et al.,

10 Defendants.

11 * * *

12 Deposition of RICHARD HART, Witness

13 herein, called by the Plaintiffs for

14 cross-examination pursuant to the Rules of Civil

15 Procedure, taken before me, Beverly W. Dillman, a

16 Notary Public in and for the State of Ohio, at

17 the offices of Sebaly, Shillito + Dyer, 1900

18 Kettering Tower, 40 North Main Street, Dayton,

19 Ohio, on Wednesday, September 25, 2013, at 1:03

20 o'clock p.m.

21 * * *

EXAMINATIONS CONDUCTED

Page

BY MR. ROMINE:.....5

BY MS. WRIGHT:.....43

EXHIBITS MARKED

(Thereupon, Plaintiffs' Exhibit 1,
Figure 3, Location of Chemical Storage,
MONS01544, was marked for purposes of
identification.).....22

(Thereupon, Plaintiffs' Exhibit 2,
Inter-Office Correspondence dated 3-1-1983,
with attachment, MONS01815-01819, was
marked for purposes of identification.).....26

(Thereupon, Plaintiffs' Exhibit 3,
Inter-Office Correspondence dated 7-22-1977,
MONS01825-0127, was marked for purposes
of identification.).....37

1 APPEARANCES:

2 On behalf of the Plaintiffs:

3 Langsam Stevens Silver & Hollaender LLP

4 By: David E. Romine
5 Jennifer Graham Meyer
6 Attorneys at Law
7 1818 Market Street
8 Suite 3400
9 Philadelphia, Pennsylvania 19103

10 On behalf of the Defendant Cox Media
11 Group Ohio:

12 Faruki Ireland & Cox P.L.L.

13 By: Jade K. Smarda
14 Attorney at Law
15 500 Courthouse Plaza, S.W.
16 10 North Ludlow Street
17 Dayton, Ohio 45402-1818

18 On behalf of the Defendant Pharmacia LLC and
19 Richard Hart:

20 Krieg Devault

21 By: Vicki Wright
22 Kay Dee Baird
23 Attorneys at Law
24 One Indiana Square
25 Suite 2800
Indianapolis, Indiana 46204-2079

On behalf of the Defendant P-Americas, Inc.:

Morgan, Lewis & Bockius LLP

By: W. Brad Nes (via telephone)
Attorney at Law
1111 Pennsylvania Avenue, NW
Washington, D.C. 20004-2541

1 On behalf of the Defendant Sherwin-Williams:

2 Gallagher Sharp

3 By: Erik Wineland (via telephone)

Attorney at Law

4 420 Madison Avenue

Suite 1250

5 Toledo, Ohio 43604

6 On behalf of the Defendant Waste

Management of Ohio:

7 Quarles & Brady LLP

8 By: William H. Harbeck (via telephone)

9 Attorney at Law

411 East Wisconsin Avenue

10 Suite 2350

Milwaukee, Wisconsin 53202

11 * * *

1 RICHARD HART

2 of lawful age, Witness herein, having been first
3 duly cautioned and sworn, as hereinafter
4 certified, was examined and said as follows:

5 CROSS-EXAMINATION

6 BY MR. ROMINE:

7 Q. Good afternoon, Mr. Hart.

8 A. (Witness nodding head up and down.)

9 Q. My name is David Romine, and I'm a
10 lawyer, and I represent three companies, Hobart
11 Corporation, NCR Corporation and the Kelsey-Hayes
12 Co., in a lawsuit that has to do with the South
13 Dayton Dump.

14 Before we get started, I'm going to
15 ask the lawyers in the room and on the phone to
16 identify themselves for the court reporter.

17 MR. ROMINE: So, again, I'm David
18 Romine, representing the plaintiffs.

19 MS. MEYER: I'm Jennifer Meyer,
20 representing the plaintiffs.

21 MS. SMARDA: Jade Smarda,
22 representing Cox Media Group.

23 MS. WRIGHT: Vicki Wright and Kay
24 Dee Baird, for Pharmacia LLC.

25 MR. ROMINE: On the telephone?

1 MR. HARBECK: Bill Harbeck, for
2 Waste Management of Ohio.

3 MR. WINELAND: Erik Wineland, on
4 behalf of the Sherwin-Williams Company.

5 MR. ROMINE: Anyone else besides
6 Erik and Bill?

7 (No response.)

8 MR. ROMINE: Okay.

9 BY MR. ROMINE:

10 Q. Mr. Hart, thank you for coming in
11 today.

12 A. Okay.

13 Q. Have you ever had your deposition
14 taken before?

15 A. No.

16 Q. I'm going to ask you some questions,
17 and ask you to answer those questions. It's okay
18 to ask me to repeat; or if you didn't hear or
19 understand, I'll try to rephrase it.

20 The court reporter is taking down
21 everything we say, so if you could wait for me to
22 finish my question before answering, I'll wait
23 for you to finish answering before I ask my next
24 question, even if you may know what my question
25 is going to be, that way the court reporter can

1 take it down more easily.

2 And this is not an endurance test,
3 so if you need to get a drink of water, use the
4 men's room, take a break and stand up, that's
5 perfectly fine; is that okay?

6 A. That's fine.

7 Q. Okay. So, Mr. Hart, where do you
8 live now?

9 A. Kettering, Ohio.

10 Q. And what's the address?

11 A. 160 Marchester Drive.

12 Q. In Kettering?

13 A. In Kettering.

14 Q. And when were you born?

15 A. I guess -- oh, when? 1932.

16 (Brief interruption.)

17 MR. ROMINE: Is someone joining the
18 call?

19 MR. NES: Yes. Yes. Yes. This is
20 Brad Nes, for P-Americas.

21 MR. ROMINE: We are just getting
22 started.

23 MR. NES: Great. Thanks.

24 BY MR. ROMINE:

25 Q. And where were you born, Mr. Hart?

1 A. Richmond, Virginia.

2 Q. And did you attend high school in
3 Richmond?

4 A. Yes, I did.

5 Q. And where was that high school?

6 A. Manchester.

7 Q. And when did you graduate?

8 A. 1950.

9 Q. And did you attend college right
10 after graduating from high school?

11 A. Yes, I did.

12 Q. And where did you go to college?

13 A. Initially, I went to Richmond
14 Professional Institute.

15 Q. And it sounds like you said
16 originally you went to Richmond Professional
17 Institute?

18 A. Two years.

19 Q. Okay. And then after that?

20 A. I transferred to Virginia
21 Polytechnic Institute.

22 Q. Do people sometimes call that
23 Virginia Tech?

24 A. Yes, they do.

25 Q. Okay. And did you graduate from

1 Virginia Tech?

2 A. Yes, I did -- not on schedule.

3 Q. When -- when did you graduate from
4 Virginia Tech?

5 A. I got my B.S. in '57 and my M.S. in
6 '58. There was two years of Army in between.

7 Q. Okay. And what was your B.S. in?

8 A. Chemical engineering.

9 Q. How about your -- oh, I'm sorry.
10 How about your B.A. -- I'm sorry, how about your
11 M.S. -- I got confused there.

12 You got your B.S. in '57?

13 A. Right.

14 Q. And you got another degree in '58?

15 A. Right.

16 Q. And the '58 was M.S.?

17 A. Right.

18 Q. Okay. I'm sorry. And what was your
19 M.S. in?

20 A. Chemical engineering.

21 Q. So both degrees were chemical
22 engineering?

23 A. Right.

24 Q. Okay. And you mentioned something
25 about taking two years off in between?

1 A. Yes.

2 Q. Okay.

3 A. I went in the Army in November of
4 '54 and got out in September of '56.

5 Q. Were you able to -- to go to school
6 in that fall semester of 1956?

7 A. No.

8 Q. So you -- maybe you started up again
9 in the winter of '57?

10 A. Well -- oh, I'm sorry. I'm sorry.
11 I am thinking September. Yes, I did go in
12 September of '56.

13 Q. Okay. And did you have any --
14 any -- after high school, did you have any
15 schooling other than the Richmond Professional
16 Institute and Virginia Tech?

17 A. No.

18 Q. Okay. And did you get a job after
19 graduating from Virginia Tech?

20 A. Yes, I did.

21 Q. And what was that?

22 A. It was Monsanto Chemical Company in
23 St. Louis.

24 Q. And was that Monsanto's headquarters
25 at the time in St. Louis?

1 A. Yes, it was.

2 Q. And what was your job at Monsanto?

3 A. Well, we had three plants in St.
4 Louis. My first job was at the Queeny plant as a
5 tech service employee, which ultimately turned
6 out to be a maintenance supervisor and production
7 supervisor.

8 Q. Did you say that was the Queeny
9 plant?

10 A. Right.

11 Q. Okay. And how do you spell that?

12 A. Q U E E N Y.

13 Q. Okay. And after you worked at the
14 Queeny plant, did you work at another Monsanto
15 facility in St. Louis?

16 A. Yes, across the river in Illinois,
17 Krummick plant.

18 Q. Can you spell that?

19 A. Krummick, K R U M M I C K, I believe
20 is right.

21 Q. Is that in the City of East St.
22 Louis or somewhere else?

23 A. Actually, it was in the -- it was in
24 the town of Monsanto. They -- I guess it was a
25 spot in the road until they named it after the

1 company.

2 Q. Okay. Was it close to East St.
3 Louis, or not really?

4 A. Well, yeah, it was close enough.

5 Q. Okay. And then after the Krummick
6 plant, did you work for another Monsanto
7 facility?

8 A. Yes, I did, back across the river at
9 South St. Louis, it was called the Carondelet
10 plant.

11 Q. And could you spell that?

12 A. I knew you were gonna ask.

13 C A R O N D E L E T.

14 Q. Okay.

15 MR. HARBECK: David, this is Bill
16 Harbeck. I'm just wondering, again, maybe if the
17 microphone is as close as you can get? I can
18 hear you fine, but the witness is kind of fading
19 in and out a little bit.

20 MR. ROMINE: Well, we will do it
21 again.

22 MS. WRIGHT: I just lost him again.

23 (Brief interruption.)

24 MR. ROMINE: Okay. So we got all
25 three lawyers who had called in on the telephone

1 are still there?

2 (Affirmative responses.)

3 BY MR. ROMINE:

4 Q. Okay. So, Mr. Hart, before the
5 break there you had told me about the Queeny
6 plant, the Krummick plant and the Carondelet
7 plant?

8 A. Right.

9 Q. Am I pronouncing those correctly?

10 A. About as close as anybody is gonna
11 get.

12 Q. Okay. And so -- and you had told me
13 that you were at the Queeny plant, you had been
14 a -- in technical service, then a maintenance
15 supervisor, and then a production supervisor?

16 A. Right.

17 Q. And if you could, tell me what your
18 job was at the Krummick plant.

19 A. The whole time I was at the Krummick
20 plant I was in tech service, and a group leader
21 in that department.

22 Q. And how about the Carondelet plant?

23 A. At the Carondelet plant I was the
24 plant maintenance engineer.

25 Q. And what did these plants do?

1 A. Primarily, manufactured chemicals.

2 Q. Was there -- what kind of chemicals?
3 What was the major product, if there was one?

4 A. Well, there were several at the
5 Queeny plant, aspirin being one of them, but
6 mostly organic chemicals.

7 Q. Like, for example, fertilizer, or
8 not necessarily?

9 A. No.

10 Q. Okay. Could you give me an example
11 of what one of the products is that was organic?

12 A. Maleic anhydride, and aspirin,
13 Bisphenol A. Let's see, maleic -- well, that's
14 what happens when you get old, you forget things.

15 Q. No problem. Have you -- have you
16 heard the distinction between bulk chemicals and
17 specialty chemicals?

18 A. Oh, yeah.

19 Q. Was this bulk chemicals or specialty
20 chemicals?

21 A. It was primarily specialty
22 chemicals.

23 Q. Okay.

24 A. It was what we refer to as a city
25 operation. There really wasn't anything

1 particularly odorous about it.

2 Q. A city operation meaning you could
3 be in or near a city and not bother the
4 residents?

5 A. I didn't say that.

6 Q. Well, why was it called a city
7 operation?

8 A. Because it wasn't like the Krummick
9 plant.

10 Q. Okay. And what was the Krummick
11 plant?

12 A. Sulfuric acid, phosphoric acid,
13 phosphorus oxychloride; just some --
14 nitrobenzenes -- just some bad stuff.

15 Q. And the Krummick plant, was that
16 more specialty chemicals or bulk chemicals?

17 A. That would have been bulk chemicals.

18 Q. Okay. And the -- when you were
19 talking about the organic specialty chemicals,
20 that was -- did that apply to the Carondelet
21 plant?

22 A. No, actually, it did not. The
23 Carondelet plant was a different operation.
24 Everything that we made there was a white powder.
25 A lot of it went into like baking powder or

1 detergents. We made one product which the food
2 entry, inserted into ham to absorb water, and I
3 don't know which one that was.

4 We did eventually, while I was
5 there, we built a phosphoric acid plant, because
6 prior to that we had been shipping it from across
7 the river from the Krummick plant, and so we
8 manufactured phosphoric acid and used it in the
9 plant.

10 Q. And after you were plant maintenance
11 engineer at the Carondelet plant --

12 A. Yes.

13 Q. What years was that, approximately?

14 A. Whew, '69 to '75.

15 Q. And in 1975, did you get another job
16 within the Monsanto organization?

17 A. Yes. I was -- I transferred to
18 Dayton. Now, we had a -- it was a subsidiary of
19 Monsanto called Monsanto Research Corporation.
20 And so the plant here was under that banner,
21 Monsanto Research Corporation, so it was not a
22 direct part of Monsanto Company.

23 And when I started out, I said
24 Monsanto Chemical Company. And the name changed
25 to Monsanto Company, I don't know, ten or 15

1 years after that, but I'm not sure when.

2 Q. Okay.

3 A. But it was the same company.

4 Q. Okay. So when you -- when you
5 started in approximately 1958, your employer was
6 known as Monsanto Chemical Company?

7 A. Right.

8 Q. And then at some point it changed
9 its name to Monsanto Company?

10 A. Right.

11 Q. Okay. And in 1975, you worked for a
12 related company known as Monsanto Research
13 Company?

14 A. Right.

15 Q. And that was in connection with your
16 move to Dayton?

17 A. Right.

18 Q. And what was the -- did the Dayton
19 facility have a name?

20 A. Not really. Just -- we called it
21 The Dayton Lab.

22 Q. The Dayton Lab?

23 A. Right. And that was because most of
24 the work was small-scale, and we -- there was no
25 large industrial operation.

1 Q. And what was your job at The Dayton
2 Lab?

3 A. Initially, I was the plant -- hmm,
4 good question. Well, I was in charge of -- of
5 the tech services and the small manufacturing
6 facility that we had, and also maintenance of the
7 location.

8 Q. You talked about a small
9 manufacturing facility?

10 A. Right.

11 Q. Was that -- another word for that
12 the pilot plant?

13 A. Yes.

14 Q. Okay. And what is tech services? I
15 mean, what does that mean?

16 A. Well, if we had to do any
17 alterations to the facilities, I would have been
18 in charge of the construction alterations. It
19 was tech service in that respect; unlike the
20 other plants, it would have been logistical
21 responsibility.

22 Q. Okay. And how did you -- how long
23 did you work for Monsanto Research Corporation at
24 The Dayton Laboratory?

25 A. Up until June 1st, 1990.

1 Q. And what happened then?

2 A. I retired.

3 Q. And did you get any employment after
4 you retired from Monsanto Research Company?

5 A. Only what my wife gives me.

6 Q. And where -- where in Dayton was The
7 Dayton Laboratory located?

8 A. 1515 Nicholas Road.

9 Q. You mentioned that The Dayton
10 Laboratory had a small manufacturing facility?

11 A. That's correct.

12 Q. And was -- was the idea that the
13 products made at this small facility would --
14 would -- was it anticipated that these would be
15 sold to the marketplace?

16 A. Not necessarily. It was -- it was
17 really a facility for Monsanto Company for
18 scale-up. In other words, if the research guys
19 in St. Louis came up with something, and they
20 wanted to make, instead of 25 pounds, 250 pounds
21 or 2,500 pounds, why, they would come to us with
22 the process to see if it would work in larger
23 quantities.

24 We also had some contracts with the
25 government, NIH primarily; we did some research

1 and development for them. And we also produced
2 anticancer drugs to be used in Bethesda for the
3 patients that were there dying of cancer. We
4 made several. The primary one that I remember
5 was methotrexate, but there were some others, and
6 I don't recall the names.

7 Q. Okay. And when you say the NIH,
8 that's the National Institutes of Health?

9 A. Right.

10 Q. Okay. And was -- is that
11 chemotherapy or is that something different?

12 A. Chemotherapy.

13 Q. About how many employees did The
14 Dayton Lab have when you got there in about 1975?

15 A. Right around 400.

16 Q. How about in 1990?

17 A. Well, it had undergone a lot of
18 changes, and I guess it may have been a hundred.

19 Q. Was -- were there times when the
20 number of employees got above 400?

21 A. There may have been, but I don't
22 recall.

23 Q. Was there -- was it more of a steady
24 drop-off of employees, or was there an event that
25 happened that made the number of employees go

1 down?

2 A. There was an event.

3 Q. Okay. And what was that?

4 A. Well, we came under the protection
5 of Monsanto Company, and they promptly got rid of
6 two-thirds of the business we were in. And we
7 were involved with Monsanto Agricultural Company,
8 and they were the -- they were the daddy at that
9 point.

10 Q. Okay. So there was some corporate
11 reorganization going on?

12 A. Right.

13 Q. Okay. And when was that?

14 A. Well, that would have been like
15 primarily in the '80s, mid-'80s.

16 Q. Were you around at any time when
17 Pharmacia Corporation was -- was involved?

18 A. That was after I retired.

19 Q. Okay. So you never worked for
20 Pharmacia, Inc.?

21 A. No.

22 Q. Have there been any reunions of
23 Dayton Lab employees since you left?

24 A. Well, they didn't tell me.

25 Q. Okay. So you have never been to

1 any?

2 A. No.

3 (Thereupon, Plaintiffs' Exhibit 1,
4 Figure 3, Location of Chemical Storage,
5 MONS01544, was marked for purposes of
6 identification.)

7 BY MR. ROMINE:

8 Q. Mr. Hart, I'm showing you what I
9 have marked as Exhibit 1. And the -- it's a
10 diagram from 1992. But I'm going to ask you if
11 you recognize anything from this diagram as
12 being -- as corresponding to what you remember
13 from your work at the Dayton Lab.

14 A. Well, some of it, yeah.

15 Q. Okay. What -- what do you
16 recognize?

17 A. Well, Building 1.

18 Q. Okay.

19 A. The guardhouse, Building 20, and I
20 guess Building 23. I'm assuming that was the
21 warehouse.

22 Q. And where did you work?

23 A. Building 1.

24 Q. Building 1?

25 A. Yes.

1 Q. Okay. Earlier today we were talking
2 to Mr. Alan Wurstner.

3 A. Yeah.

4 Q. And he had -- he had mentioned that
5 sort of on the lower left part of this diagram,
6 closer to the railroad tracks, there had been
7 some buildings in that area?

8 A. Right.

9 Q. Were those buildings in existence
10 when you began working for Monsanto at the Dayton
11 Lab in 1975?

12 A. Yes.

13 Q. Were they there when you left in
14 1990?

15 A. No.

16 Q. What happened to them?

17 A. We tore them down.

18 Q. Why?

19 A. Got out of the business.

20 Q. And what business was that?

21 A. That was not under my control, but
22 it was a nuclear source business.

23 Q. What was in Building 1?

24 A. Primarily laboratories and offices
25 and conference rooms, maintenance shop. That's

1 all I'm thinking.

2 Q. How about Building 20?

3 A. That was the pilot plant. And also
4 Building 22, that was the boiler room.

5 Q. 22 was the boiler room?

6 A. Yeah.

7 Q. Okay.

8 A. Building 20 was the -- what we call
9 the pilot plant, and that's where we made --
10 manufactured the chemicals of various sorts; but
11 not -- not big -- big amounts.

12 Q. And I think you mentioned that
13 Building 23 was the warehouse?

14 A. I -- yeah, probably. Let me think
15 here. Yeah, I'm pretty sure that that's the
16 warehouse.

17 Q. Was there any other use for Building
18 23 other than the warehouse?

19 A. No.

20 Q. What was stored in the warehouse?

21 A. Whatever we made in the pilot plant
22 before we shipped it out.

23 Q. So that was for finished product
24 then?

25 A. Right.

1 Q. Was it -- how about for raw
2 material?

3 A. There may have been. I don't
4 recall.

5 Q. Okay. Was there another building
6 that was dedicated to raw materials?

7 A. No. We never really had big
8 inventories of raw materials.

9 Q. What is The Mound Laboratory?

10 A. Well, that was part of Monsanto
11 Research Corporation. I'm sorry, the question is
12 what is or what was?

13 Q. Yeah.

14 A. Well, they manufactured nuclear
15 materials for the -- the Department of Defense.

16 Q. Did you ever work there?

17 A. No.

18 Q. Did you ever visit there?

19 A. Yes.

20 Q. About how many times?

21 A. Oh, less than a dozen.

22 Q. Why?

23 A. Why? I had no business there.

24 Q. No, I mean, why did you visit there?

25 A. Well, in some cases it was to

1 attend -- maybe attend a class; and the other
2 reason might have been to discuss mutually --
3 mutual problems.

4 Q. Okay. So someone higher up in
5 Monsanto Research Corporation said go to The
6 Mound Laboratory for one reason or another, and
7 you went?

8 A. Right.

9 Q. But it was never your regular place
10 of work?

11 A. No. I had to be cleared, and I also
12 had to have somebody puppy-dog around after me
13 while I was there, so --

14 Q. You had to be cleared because it was
15 classified --

16 A. Classified.

17 Q. -- things going on there?

18 A. Right.

19 (Thereupon, Plaintiffs' Exhibit 2,
20 Inter-Office Correspondence dated 3-1-1983, with
21 attachment, MONS01815-01819, was marked for
22 purposes of identification.)

23 BY MR. ROMINE:

24 Q. So, Mr. Hart, have you had a chance
25 to take a look at Exhibit 2?

1 A. Yes.

2 Q. Okay. Have you seen this before?

3 A. Not that I recall.

4 Q. Okay. And who is D. L. Zanders?

5 A. Well, he was part of the operation

6 that -- where we had a lot of government

7 contracts to do a lot of research for the

8 government. I can't really -- I know Don -- or

9 knew him. I think he is not with us anymore.

10 But, anyway, in Building 1, when I mentioned we

11 had labs, there was a lot of small-scale activity

12 taking place, things like hood work, that small.

13 And I would assume from this, but I

14 don't know it to be true or not, that where they

15 talked about very large quantities of waste, it

16 probably was generated in the pilot plant; where

17 they talk about small amounts, it was throw-away

18 stuff in the laboratories.

19 Q. Okay. So Mr. Zanders was a Monsanto
20 Research Corporation employee?

21 A. Yes, he was.

22 Q. And he worked at The Dayton Lab?

23 A. Yes, he did.

24 Q. Okay. How about G. L. Jesse?

25 A. Oh, Gene was -- he never was part

1 of -- of Monsanto Research Corporation. He was
2 a plant manager at a couple of our plants, and
3 he -- at this point, he was -- he was at the
4 general office in St. Louis, headquarters. And
5 what his job was at that time, I have no idea.

6 Q. Okay. And when you say Gene, you're
7 referring to Mr. Jesse?

8 A. Right.

9 Q. And you met him? You have met Mr.
10 Jesse?

11 A. Oh, I know him.

12 Q. Yeah. Do you keep in touch with
13 him?

14 A. I don't keep in touch with anyone.

15 Q. I'm going to ask you about a couple
16 more names on the -- on the memo here. W. B.
17 Witmer?

18 A. Well, this -- let's see what the
19 date is. Well, he was the site manager at this
20 time.

21 Q. And when you say the site manager,
22 that's The Dayton Laboratory?

23 A. Right.

24 Q. Was he the boss, the highest ranking
25 person?

1 A. At that time, yes.

2 Q. Okay. How about the next name? I'm
3 not gonna try to pronounce it.

4 A. Ctvrtnicek.

5 Q. Ctvrtnicek?

6 A. I think he was a group leader.

7 Q. A group leader?

8 A. Yeah.

9 Q. Do you remember what group?

10 A. No.

11 Q. Okay. How about R. M. Scott?

12 A. Well, okay, Royce was -- he was in
13 St. Louis at this time.

14 Q. Okay.

15 A. And I don't -- I'm not sure what his
16 job was.

17 Q. And when you say Royce, you're
18 referring to Royce Scott?

19 A. Right.

20 Q. Did he ever work at The Dayton Lab?

21 A. Oh, yeah.

22 Q. During what time period?

23 A. Well, before I became the plant
24 manager and after I retired, two periods of time.

25 Q. Two different periods?

1 A. Right.

2 Q. Okay. And how about B. J.
3 Gilhausen?

4 A. I have no idea.

5 Q. Okay. So, again, correct me if I'm
6 wrong, but it seems like you -- during the course
7 of your work, you -- you met Mr. Witmer, Mr.
8 Ctvrtnicek and Mr. Scott at some point?

9 A. Oh, yeah.

10 Q. Okay. But not Mr. Gilhausen?

11 A. No.

12 Q. Okay. Reading the first page of
13 this memo written by Mr. Zanders, it says: In
14 response to your request, the following is a
15 history of open (current) and closed (no longer
16 used by The Dayton Laboratory) disposal sites,
17 and then it goes on. Were you aware of any
18 requests from Mr. Jesse, or anyone else at
19 Monsanto headquarters, about disposal sites?

20 A. I don't recall any.

21 Q. Okay. Were you involved in waste
22 disposal as part of your job at The Dayton
23 Laboratory?

24 A. Only to the extent if something went
25 wrong, they would blame it on me.

1 Q. Okay. Did they blame something on
2 you?

3 A. No.

4 Q. Okay. You mentioned you were plant
5 manager for some period?

6 A. '84 to '88.

7 Q. Okay. Was that -- was that the same
8 position that Mr. Witmer held?

9 A. Yes.

10 Q. Okay. When you were plant manager,
11 how was the waste disposed of, the waste that was
12 generated by The Dayton Laboratory?

13 A. That's difficult for me to answer
14 because I only got involved in -- in things that
15 went on at the plant if there was a problem. If
16 there was no problem, I didn't get involved in it
17 to make one. So it pretty much -- when I came on
18 site, that was all a routine operation; I did not
19 get involved.

20 Q. Did The Dayton Lab hire a hauler to
21 come and take away the trash, or did Monsanto
22 have its own trucks that would take the trash
23 somewhere?

24 A. I don't recall, but I believe it was
25 a contract. Monsanto was not a big presence in

1 the area, so we did not have trucks.

2 Q. If you look back at the first
3 exhibit, Exhibit 1 --

4 A. Yes.

5 Q. -- the diagram, can you point out to
6 me where the trash was when the trucks came to
7 pick it up?

8 A. Oh, well, let's see. Probably in
9 the area of Area 13 and Area 12.

10 Q. The areas that are shown on the --

11 A. On this map, yes.

12 Q. Right. Okay. When you say
13 probably, do you remember a dumpster or some kind
14 of trash container in that area?

15 A. Yeah.

16 Q. Okay. Any -- any other places?

17 A. Well, probably Building 12, which
18 was a small warehouse before they built the big
19 one.

20 Q. Okay.

21 A. And it did not contain -- it
22 wasn't -- it wasn't big enough to contain very
23 much. But at some point, probably after -- oh,
24 I'd say around 1987 or '88, we got rid of a lot
25 of chemicals. And so we had someone come in, and

1 they repackaged all the chemicals on site that
2 were no longer used or needed in Building 12.
3 Who -- where that went, I don't know.

4 Q. Was it your impression that those
5 were being repackaged for reuse or disposal?

6 A. Repackaged to get rid of.

7 Q. For disposal?

8 A. Right.

9 Q. But you don't know where that went?

10 A. No.

11 Q. Who was it that came and took it?

12 A. I don't know that either.

13 Q. Okay. I want to go back now to
14 Exhibit 2, and I want to ask you about the second
15 page. It's numbered 1816 at the bottom.

16 A. Okay.

17 Q. And about halfway down the Page
18 1816, it -- there is a notation entry regarding
19 the South Dayton Dump and Landfill, Dayton, Ohio.

20 A. Yes.

21 Q. And then if you look to the right on
22 the same page regarding that same entry, it looks
23 like -- or Mr. Zanders is noting that there were
24 a quantity less than 800 pounds of inorganics
25 disposed of at the South Dayton Landfill in

1 around 1976 or 1977?

2 A. Right.

3 Q. Okay. Aside from reading this memo,
4 are you aware of the disposal of these inorganics
5 at the South Dayton Dump and Landfill that Mr.
6 Zanders is writing about here?

7 A. No.

8 Q. Are you aware of any disposal by
9 Monsanto Research Corporation at the South Dayton
10 Dump and Landfill, other than this notation here?

11 A. Would you repeat that question?

12 Q. Sure. Are you aware of any disposal
13 of any waste by Monsanto Research Corporation at
14 the South Dayton Dump and Landfill?

15 A. Well, I knew that we used it, but
16 specifically what was going in it, I have no
17 knowledge.

18 Q. When you say you used it, how do you
19 know that Monsanto Research Corporation used the
20 South Dayton Dump?

21 A. Saw the truck come in and go out.

22 Q. What -- what truck go in and go out
23 of where?

24 A. Of the plant.

25 Q. And it was from Monsanto or --

1 A. Yeah.

2 Q. How do you know it was Monsanto
3 waste that was in it?

4 A. Well, that's a good question. Maybe
5 I don't know.

6 Q. Okay. Did you ever see the same
7 truck leave from the plant and go to the South
8 Dayton Dump site?

9 A. Well, I saw a truck go out the gate,
10 and I didn't follow it, so I don't know where it
11 went.

12 Q. Okay. Do you know -- do you know of
13 other dumps or places in the Dayton area where
14 the Monsan -- the Dayton Lab waste went?

15 A. No. The only one I'm aware of is
16 the one we're talking about.

17 Q. South Dayton?

18 A. Right.

19 Q. Yeah. I'm trying to explore,
20 though, a little bit where your knowledge comes
21 from. Is it just so close that you assumed that
22 it went there, or you had some dealings with the
23 South Dayton Dump somehow?

24 A. I didn't -- I had no dealings with
25 the South Dayton personally.

1 Q. Okay.

2 A. No dealings with the South Dayton
3 Dump site. I was -- probably the purchasing
4 people were involved with that.

5 Q. And who were they?

6 A. Well, there were several while I was
7 there. You see all this white hair? I have
8 forgotten much of what I used to know.

9 Q. (Indicating.)

10 A. Yeah, but you're still working.

11 Q. Okay. That's okay. If it comes to
12 you -- if it comes to you, let me know.

13 A. I guess the only one I can really
14 remember is Norman Miller. He was involved.

15 Q. Norman Miller?

16 A. Yeah. He was in purchasing.

17 Q. Okay.

18 A. But we had several people in that
19 department that either went somewhere else for a
20 better job or just went.

21 Q. Right. I understand. When you were
22 working for The Dayton Lab, was it your
23 understanding that part of Mr. Zanders' job was
24 disposing of -- of waste chemicals?

25 A. No.

1 Q. We mentioned the South Dayton Dump a
2 couple times. Where is that?

3 A. I think it's off Dryden Road, south
4 of the river.

5 Q. And when you say the river, that's
6 the Miami River?

7 A. I think that's what they call it,
8 yeah.

9 Q. Okay.

10 (Thereupon, Plaintiffs' Exhibit 3,
11 Inter-Office Correspondence dated 7-22-1977,
12 MONS01825-0127, was marked for purposes of
13 identification.)

14 THE WITNESS: (Examining document.)

15 BY MR. ROMINE:

16 Q. Have you had a chance to look at
17 Exhibit 3?

18 A. Yes.

19 Q. Do you remember seeing this memo
20 when you worked at Monsanto Research Corporation?

21 A. Well, I'm sure I did. I see I'm
22 carbon-copied on it, but I don't recall at this
23 point seeing it.

24 Q. Fair enough. Who is Thomas D. Beal?

25 A. He was one of the -- he was a safety

1 guy on site.

2 Q. How about George A. Richardson?

3 A. He was an organic chemist who -- he
4 would have had knowledge of -- of the chemicals
5 we are talking about; not Beal, necessarily.

6 Q. And how -- how about J. E. Guthrie?

7 A. Guthrie worked for me, and --
8 directly. And he was not a knowledgeable
9 chemist, as such. In fact, I don't even think
10 John had a degree in anything, but -- and to be
11 honest with you, I don't know why he is even on
12 this list.

13 Q. Okay. How about E. E. Hardy?

14 A. Oh, he was -- he was the lab
15 director when I first arrived, and I've forgotten
16 when he left. He probably left prior to '80, but
17 I wouldn't swear to it.

18 Q. Okay. And are all the people named
19 on this memo, they all worked in Dayton?

20 A. Yes.

21 Q. Okay. So there is no one here being
22 copied to St. Louis?

23 A. That is correct.

24 Q. Okay. I want to get -- ask you a
25 question that's gonna be based on this first

1 sentence here. The objective of this report is
2 to outline the method for disposal of
3 continuously generated chemical waste from The
4 Dayton Laboratory. And my question is: When you
5 worked there, in terms of disposing of the
6 chemicals, was there different treatment for
7 continuously generated chemical waste, as opposed
8 to haphazardly or ad hoc generated chemical
9 waste?

10 A. I can't answer that.

11 Q. Okay. And then if you look at
12 the -- the second page, 1826?

13 A. Right.

14 Q. It looks like there is a flow chart
15 of how the authors of the memo anticipated they
16 were going to dispose of this waste. And one of
17 the steps is off-site disposal sites located and
18 inspected. And my question to you is: Did you
19 play any role in locating and inspecting any
20 off-site disposal sites?

21 A. No.

22 Q. Did anybody that you know of, from
23 your knowledge of working there, did anybody do
24 that?

25 A. Probably, but I have no knowledge of

1 who it was.

2 Q. Okay. So somebody probably did it,
3 you just don't know who -- you just don't
4 remember who it was or you don't know who it was?

5 A. Right.

6 Q. Okay. Was that a topic that you
7 talked about with any of these people that are
8 shown on the memo?

9 A. Not unless there was a problem.

10 Q. Okay. But was it a problem, and you
11 have memory of talking about it?

12 A. Nope.

13 Q. Okay. It looks like, if I'm reading
14 this memo correctly, that Mr. Beal and Mr.
15 Richardson are proposing some kind of process for
16 deciding how -- how and where to dispose of
17 chemical waste. Was this -- this process that
18 they outlined here on Page 1826, was that process
19 followed?

20 A. I can't answer that. I had no idea
21 this even existed.

22 Q. Okay.

23 A. Just looking at it, I'm assuming
24 that Hardy must have asked the question and this
25 is the answer.

1 Q. I see. So you're saying -- you're
2 saying that -- okay.

3 So Hardy is asking Beal and
4 Richardson, we need to figure out what to do; and
5 this is Beal and Richardson saying this is how we
6 are gonna do it?

7 A. Right.

8 Q. Okay. And why -- what was the
9 nature of your job that would have -- that Beal
10 and Richardson would have thought that you were
11 necessary to cc on it?

12 A. Well, as I stated previously, I was
13 the -- involved in the logistics of running the
14 place.

15 Q. Okay.

16 A. So that would have fallen under
17 that.

18 MR. ROMINE: Okay. Off the record.

19 (Recess taken.)

20 MR. ROMINE: Back on the record.

21 BY MR. ROMINE:

22 Q. Mr. Hart, you had mentioned that you
23 were in the Army a couple years from 1954 to
24 1956?

25 A. That's correct.

1 Q. And where were you stationed?

2 A. Hawaii; almost embarrassed to say
3 that, but --

4 Q. No problem. You were there -- you
5 were there the whole -- basically, the entire two
6 years?

7 A. Well, other than basic training in
8 South Carolina, that's where I was assigned.

9 Q. Okay. Okay. And you had also
10 mentioned that there were approximately 400
11 employees at The Dayton Lab when you got there?

12 A. Yes.

13 Q. But then when you left, it had
14 dwindled to somewhere around a hundred, roughly?

15 A. Right.

16 Q. Was that -- was that due more to a
17 decrease in the government contract work or
18 the -- the pilot plant work, or can you not --
19 not split it up that way?

20 A. Well, I could be a smart ass and say
21 it was due to people in St. Louis thinking they
22 knew more than they really did, but it was
23 primarily the plan from St. Louis to get rid of
24 the site.

25 Q. Okay.

1 A. Which they ultimately did.

2 Q. Okay. And -- and the -- and correct
3 me if I'm wrong, but the, I guess,
4 decommissioning of the nuclear part of the
5 facility was part of that process?

6 A. Yes.

7 Q. Okay. Do you know where any of the
8 waste from the nuclear part of the plant went?

9 A. Well, I -- I may know, but I'm not
10 sure I do. And I -- as I recollect, I think it
11 went to Hanford, Washington, before it got
12 closed.

13 Q. Okay. Some kind of nuclear waste
14 facility?

15 A. Hanford, Washington, yeah. But I --
16 you know, I wouldn't stake my life on that.

17 Q. I understand.

18 MR. ROMINE: I think that's all the
19 questions I have. I pass the witness.

20 MS. WRIGHT: Okay. I have a few.

21 THE WITNESS: Okay.

22 DIRECT EXAMINATION

23 BY MS. WRIGHT:

24 Q. A little earlier in your deposition,
25 Mr. Hart, you testified that South Dayton Dump

1 was a site that you were aware of?

2 A. Right.

3 Q. How were you aware of South Dayton
4 Dump?

5 A. I have heard people talk.

6 Q. What would they say?

7 A. I don't recall.

8 Q. You don't recall?

9 You also testified that you saw
10 trucks leaving the site, but you did not know
11 where they went; is that correct?

12 A. That is correct.

13 Q. So just to be clear that I
14 understand your testimony correctly, you do not
15 have any firsthand knowledge of trucks leaving
16 The Dayton Lab and going to South Dayton Dump; is
17 that true?

18 A. That's correct. That's correct. If
19 I said anything other than that, it would have
20 been an assumption.

21 Q. Okay. There is a joke about that,
22 but I won't put it on the record.

23 A. I know the joke.

24 Q. You know the joke.

25 I just have one more question. Do

1 you have any reason not to believe that any
2 nuclear-contaminated or waste -- radioactive
3 waste was not properly disposed of?

4 A. I think it was all properly disposed
5 of.

6 MS. WRIGHT: That's all I have got.

7 MS. SMARDA: I have no questions on
8 behalf of Cox Media Group.

9 MR. ROMINE: Anyone on the telephone
10 have any questions for Mr. Hart?

11 MR. HARBECK: This is Bill Harbeck.
12 No questions.

13 MR. NES: This is Brad Nes. No
14 questions.

15 MR. WINELAND: Erik Wineland. No
16 questions.

17 MR. ROMINE: I think we are done.

18 THE NOTARY: And signature?

19 MS. WRIGHT: If you send it to me,
20 I'll take care of that.

21 (Thereupon, the deposition was
22 concluded at 2:15 o'clock p.m.)

23

24

25

1 I, RICHARD HART, do hereby certify
2 that the foregoing is a true and accurate
3 transcription of my testimony.

4
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6 - - - - -

7
8 Dated - - - - -
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1 STATE OF OHIO)

2 COUNTY OF MONTGOMERY) SS: CERTIFICATE

3 I, Beverly W. Dillman, a Notary Public
4 within and for the State of Ohio, duly
5 commissioned and qualified,

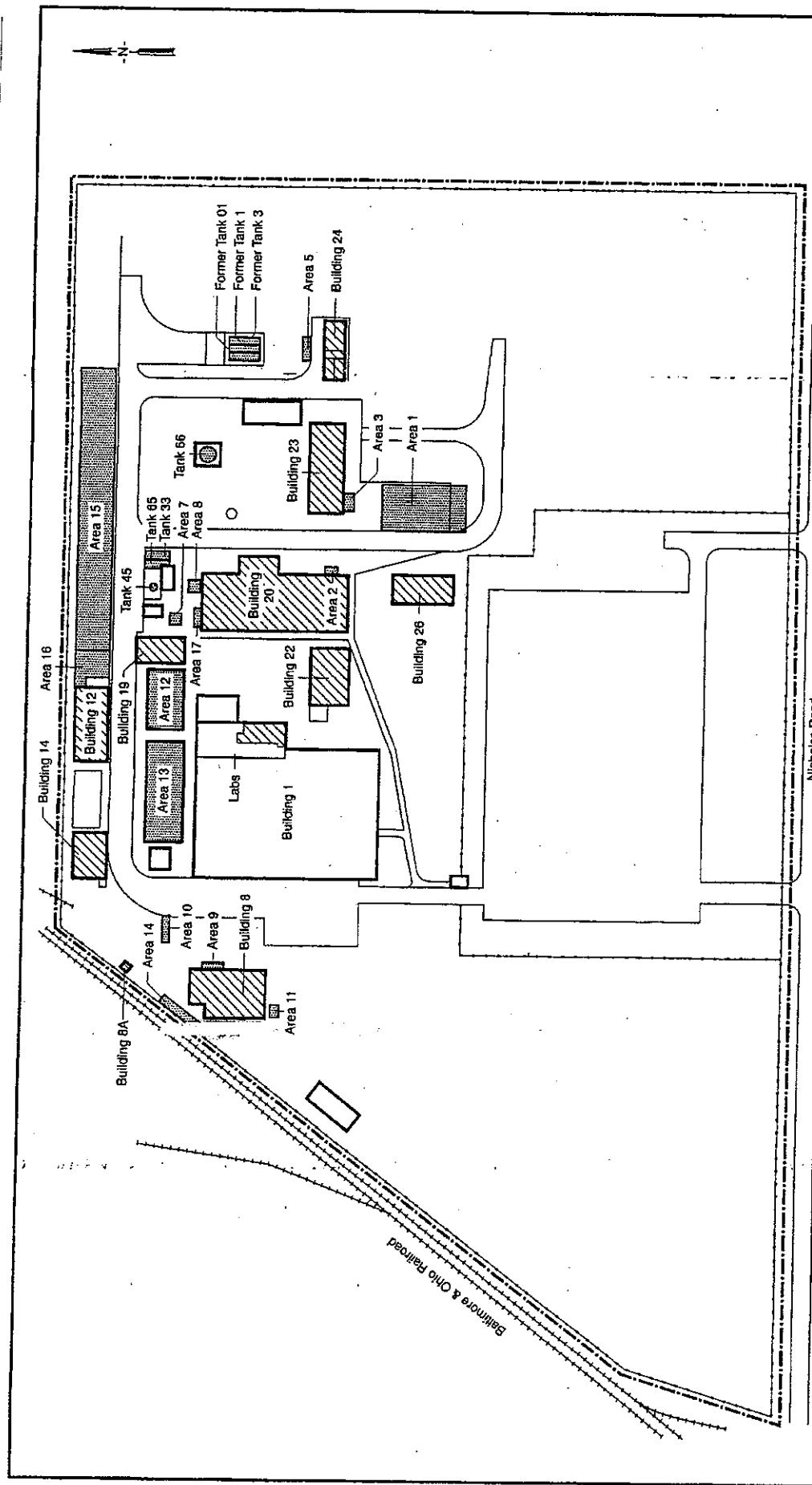
6 DO HEREBY CERTIFY that the above-named
7 RICHARD HART, was by me first duly sworn to
8 testify the truth, the whole truth and nothing
9 but the truth.

10 Said testimony was reduced to writing by
11 me stenographically in the presence of the
12 witness and thereafter reduced to typewriting.

13 I FURTHER CERTIFY that I am not a
14 relative or Attorney of either party, in any
15 manner interested in the event of this action,
16 nor am I, or the court reporting firm with which
17 I am affiliated, under a contract as defined in
18 Civil Rule 28(D).

1 IN WITNESS WHEREOF, I have hereunto
2 set my hand and seal of office at Dayton, Ohio,
3 on this _____ day of _____, 2013.

4
5 _____
6 BEVERLY W. DILLMAN, RPR, CRR
7 NOTARY PUBLIC, STATE OF OHIO
8 My commission expires 3-6-2017
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QUALITY CHEMICALS, INC.
 Subsidiary of Fluor Chemical Corporation
 Dayton, Ohio Plant

FIGURE 3
LOCATION OF CHEMICAL
STORAGE

Job No. 24667-001-121
 Darius & Moore

0 100 200
 APPROXIMATE SCALE IN FEET

BASE MAP SOURCE: Modified from
 Monsanto Agricultural Company Engineering
 Department, St. Louis, Missouri, Plot Plan,
 Drawing No. SCS-047, March 1992.

LEGEND:

- Property Boundary
- Fence
- Buildings Containing Stored Chemicals
- Areas of Chemical Storage

PLAINTIFF'S
 EXHIBIT
 9-25-13
 Hart

CONFIDENTIAL

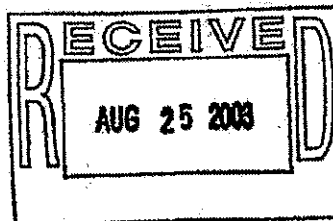
MONSANTO RESEARCH CORPORATION

Inter-Office Correspondence

FROM LOCATION : D. L. Zanders/Dayton Laboratory
DATE : March 1, 1983
SUBJECT : Dayton Laboratory Waste Disposal History
REFERENCE :

cc: W. B. Witmer
T. E. Ctvrtnicek
R. M. Scott - 02B
B. J. Gilhausen - G3WB

TO : G. L. Jesse
G3WG/St. Louis

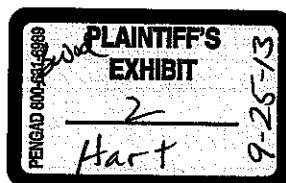


In response to your request, the following is a history of open (current) and closed (no longer used by the Dayton Laboratory) disposal sites associated with the operation of the Dayton Laboratory. Both on-site and off-site disposals are listed, and off-site disposals are grouped by the method of disposal (reclamation, incineration, and landfill). To assemble the list, existing records and recollections of the older, and now retired MRC employees were used. The completeness of the list is uncertain. Radioactive and general, non-hazardous industrial waste disposal sites are not included.

I trust that the information provided will meet your needs. If you have further questions, please contact me.

Don
D. L. Zanders

DLZ:ss



MONS01815

AN ACCOUNT OF OFF-SITE CHEMICAL WASTE LANDFILLS

Site	Method of Disposal/Treatment	Status	Waste Components	Quantity	Approximate Period of Activity
Unnamed landfill on Vance Road, Dayton, Ohio	Landfill	Closed	Dimethyl mercury in a stainless steel container	~4 lbs	Early 1950's
Edgewood Arsenal, Aberdeen Proving Ground, Maryland	Dumping/burial (also see the entry on this site in the listing on incineration)	Closed	Decontaminated hardware (e.g., a GC, a glove box, ducts) and products from Government contracts on physical/chemical/colloid research of agents	Uncertain; guesstimated at ~100 lbs	1967-69
Toxic materials dump at Wright-Patterson Air Force Base, Dayton, Ohio	Dumping	Closed	Portions of decontaminated hardware listed under Edgewood Arsenal	Uncertain; guesstimated at ~100 lbs	1967-69
South Dayton Dump and Landfill, Dayton, Ohio	Landfill	Closed	Inorganics (e.g., Na_2CO_3 , alumina) in 100 lb sacks	<800 lbs	1976/77
Unnamed landfill in Seymour, Indiana	Landfill	Closed	Reacted acrylic mix polymer scrap	~20 tons	Early 1970's
Headlee Refuse, Inc., Delaware, Ohio	Landfill	Closed	Off-grade materials and solvents from acrylic resin production; some lab chemicals	~50 tons	Early 1970's thru 1974
Pristine, Inc. Reading, Ohio	Landfill at an undisclosed location in northern Kentucky arranged by Pristine against HRC instruction that this waste was to be incinerated	Closed	Large variety of lab organic chemicals packed in drums	<400 lbs	1977/1980
CECOS International (formerly NENCO) Williamsburg, Ohio	Secure landfill	Open	Chemically contaminated scrap (87%), asbestos (5%), various lab chemicals in glass containers packaged in cans and drums (9%)	~15 tons	1977 - present

CONFIDENTIAL

AN ACCOUNT OF CHEMICAL WASTE INCINERATION

Site	Method of Disposal/Treatment	Status	Waste Components	Quantity	Approximate period of Activity
Edgewood Arsenal, Aberdeen Proving Ground, Maryland	Burning (also see the listing on landfills)	Closed	Materials from Government contracts on physical/chemical/colloid research of agents; residual CS and solid lethal agents; agent-contaminated solvents (toluene, xylene, benzene, acetone)	~50 lbs of unused agents and ~8 tons of solvents	1967/69
Unnamed site in Terre Haute, Indiana	Incineration	Closed	Acrylic polymer wastes in butanol/kerosene mixture with 25%-30% polymer	~40 tons	Early 1970's
American Chemical Services, Griffith, Indiana	Incineration	Closed	Scrap methanol	Estimated at several tens of tons	Early 1970's
City dump site in Moraine City, Ohio	Open burning; soil covered	Closed	Lab waste organic chemicals of large variety and reactive inorganic metals (Na, K, Li)	<800 lbs	~1976/77
Pristine, Inc., Reading, Ohio	Incineration	Closed	Waste solvents (1/3 aromatic, 2/3 olefinic; less than 0.1% mercaptans)	~100 tons	1977-1980
Dayton North County Incinerator, Dayton, Ohio	Incineration	Open	Wastes from laboratory bio-assays	~5 tons	1980 - present
Robert Ross & Sons, Grafton, Ohio	Incineration	Open	Waste solvents (1/3 aromatic, 2/3 olefinic; less than 0.1% mercaptans)	~200 tons	1980 - present

AN ACCOUNT OF ON-SITE BURIAL LOCATIONS

Location	Method of Disposal/Treatment	Status	Waste Components	Quantity	Approximate Period of Activity
Northwest corner of the property	Burial some 25 feet deep; soil covered	Closed	Probably polonium 210 (decayed now) and polonium 210 contaminated hardware	Unknown	1942/43
Fence line area north of Bldg. 8	Burial; soil covered	Closed	^{210}Po (decayed now) plus contaminated labware	20mc1	1952
Fence line area west and under Bldg. 18	Dumping into the swamp and covered	Closed	Variety of lab chemicals and labware contaminated with off-spec reaction products; formaldehyde; $\text{Cu}(\text{CH}_3)_2$ contaminated labware	<250 lbs [100g $\text{Cu}(\text{CH}_3)_2$]	1940's and early 1950's
Southwest area south of Bldg. 3 and north of Bldg. 2	Dumping; covered	Closed	Variety of chemicals and labware from chemical synthesis laboratory experiments	<100 lbs	1940's and early 1950's
North fence line and possibly northwest of Bldg. 5	Pouring and dumping	Closed	Variety of off-spec reaction products from lab organic synthesis experiments	<100 lbs	1940's thru 1950's
Northeast corner	Burning and burial of C^{14} wastes and contaminated scrap in three holes 4'x4'x5' in the ground; soil covered	Closed	C^{14} wastes and contaminated scrap	~3mc1	1959; 1960 1966
North of Bldg. 20	Several trenches covered with plywood used to conduct tests on the feasibility of transporting aqueous foam through tunnels; the foam was intended to be a transport medium for CS agent; soil covered	Closed	Detergent and foam stabilizers; use of the small quantity of CS agent in the tests is uncertain	<20 lbs	1967
East of Bldg. 20	A pit ~30 ft in diameter lined with gravel and limestone and used to neutralize HCl wastes; occasional dumping of lab chemicals and lab wastes from scrapped reactions; cemented	Open; used now to contain wastes during pilot plant upsets	CaCl_2 smaller undetermined quantities of various lab chemicals and lab wastes from scrapped reactions	<2 tons	Mid 1960's thru mid 1978

6-11-77

AN ACCOUNT OF CHEMICAL SCRAP RECLAMATION SITES

Site	Method of Disposal/Treatment	Status	Waste Components	Quantity	Approximate Period of Activity
CC Supply, Wapakoneta, Ohio	A jobber for Chemical Recovery System Elyria, Ohio; Custom Industrial Waste Disposal, Louisville, Kentucky; Inland Chemical, Louisville, Kentucky; and Konolrad Industries, Pandora, Ohio	Closed	Refer to reclaimers listed under Method of Disposal/Treatment	Refer to reclaimers listed under Method of Disposal/Treatment	1975/1977
Chemical Recovery System, Elyria, Ohio	Reclamation of bulk waste solvents for resale; waste product from reclamation incinerated at Robert Ross & Sons, Grafton, Ohio	Closed	Paraffin, olefin, fatty acid, and toluene scrap	<15 tons	1975/1977
Custom Industrial Waste Disposal, Louisville, Kentucky	Reclamation of bulk chemical waste for blending and reuse as fuel	Closed	Toluene, hexane, heptane solvent scrap	<50 tons	1975/1977
Inland Chemical, Louisville, Kentucky	Reclamation of bulk chemical waste for resale	Closed	Spent methylene chloride solvent	<10 tons	1977
Konolrad Industries, Pandora, Ohio	Reclamation of bulk scrap methanol and toluene for use as gasoline antifreeze	Closed	Methanol and toluene scrap	<50 tons	1975/1977
Superior Oil Company, Indianapolis, Indiana	Reclamation of bulk waste solvents	Closed	Xylene, toluene, hexane blend	<20 tons	1981

MONS01819

MONSANTO RESEARCH CORPORATION

Inter-Office Correspondence

FROM: LOCATION: Dayton Laboratory/T. D. Beal
G. A. Richardson

cc: R. C. Hart
J. E. Guthrie

DATE: July 22, 1977

SUBJECT: Disposal of MRC Waste Chemicals

TO: E. E. Hardy, JR 27 1977

The objective of this report is to outline the method for disposal of continuously generated chemical waste from the Dayton Laboratory. Some of the methods employed in the past can no longer be used. Disposal will be conducted by approved methods at approved disposal sites.

The disposal method is outlined in Figure 1. First, the chemical waste, as received, will be segregated into classes for disposal and held on site, until sufficient quantities are generated to keep disposal costs as economically feasible as possible.

The next step entails location and inspection of an off-site disposal area or facility. This will undoubtedly involve several sites and/or disposal methods. Extremely toxic and hazardous wastes will require a different disposal method than the flammables, which will require a different method than the liquid nonflammables. The nontoxic solids, may require a different disposal method than those above, etc.

The next step is approval of the disposal site and the method that is used. Upon approval of the site, shipping and transportation of the waste to the site will be arranged.

The final step being destruction of the wastes in an approved and safe manner. This will require witnessing of the destruction by MRC personnel.

Periodically all sites will be inspected to assure that the disposal is conducted in a safe and approved manner at all times.

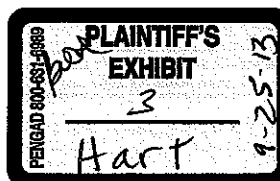
Thomas D. Beal

George A. Richardson

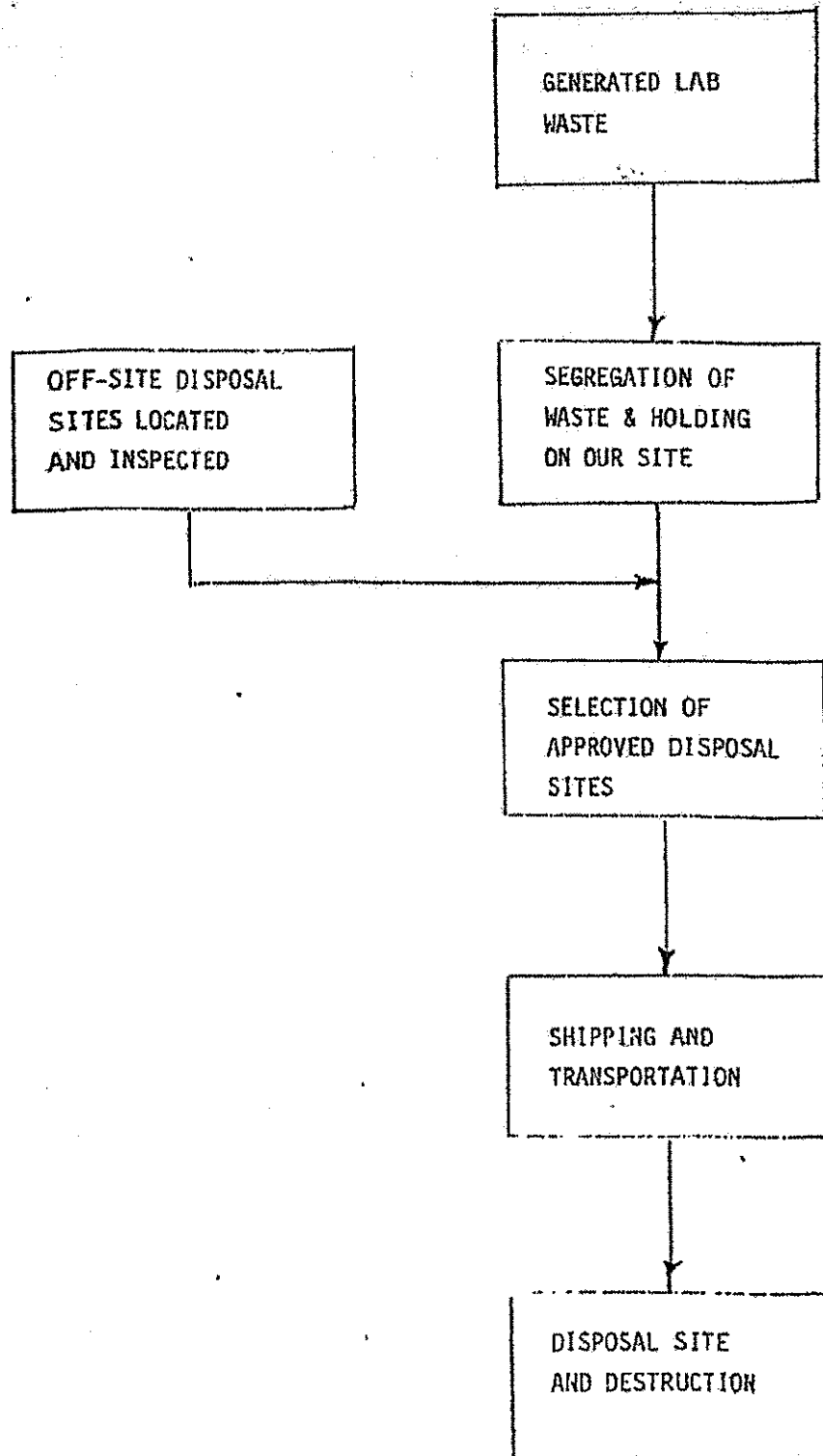
kg

Attachment

MC-10



MONS01825



E.P.A. Approved and Other Sites

<i>contractor</i>	<i>Type of operation</i>		
1. Robert Ross and sons Grafton, Ok 216-748-2171	Incineration; chemical land-fill	June 1977	
2. Liquid Waste Inc. Louisville, Ky	Incineration	July 1977	
3. Pristine Reading, Ok	Incineration chemical land-fill	October 1977	
4. Industrial Waste Disposal Springfield, Ok 502-968-6173	land-fill	March 1977	
5. CER-NEWCO Williamstown, Ok	land-fill	November 1977	
6. Inland Chemical Louisville, Ky	Reclaimers	July 1977	
7. Chemical Recovery Elyria, Ok	Reclaimers	June 1977	
8. Ronolco Industries Tandora, Ok	Reusers	May 1977	
<i>Liquid Disposal of Michigan</i>			
<i>Smith Landfill Shepherdsville, Ky</i>			
<i>Jones Chemical Berwyn, Ok</i>			

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF OHIO
WESTERN DIVISION

* * *

HOBART CORPORATION, et al.,

Plaintiffs,

vs.

CASE NO. 3:13-cv-00115-WHR

THE DAYTON POWER AND

LIGHT COMPANY, et al.,

Defendants.

* * *

Deposition of THOMAS D. BEAL, SR.,

Witness herein, called by the Plaintiffs for
cross-examination pursuant to the Rules of Civil
Procedure, taken before me, Michelle A. Elam, a
Notary Public in and for the State of Ohio, at the
offices of Sebaly, Shillito + Dyer, 1900 Kettering
Tower, 40 North Main Street, Dayton, Ohio, on
Friday, the 11th day of April, 2014, at 10:04 a.m.

* * *

Page 2

Page 4

1 EXAMINATIONS CONDUCTED PAGE
 2 BY MR. ROMINE: 9
 3 BY MS. WRIGHT: 92
 4 BY MR. HARBECK: 93
 5 BY MR. ROMINE: 96
 6 BY MR. HARBECK: 98
 7 BY MS. WRIGHT: 101
 8 BY MR. ROMINE: 101

9
 10 EXHIBITS MARKED PAGE
 11 (Thereupon, Plaintiffs' Exhibit 17
 12 Number 1, a document entitled
 13 Montgomery County Ohio General
 14 Health District Permit for Open
 15 Burning, was marked for purposes of
 16 identification.)
 17 (Thereupon, Plaintiffs' Exhibit 27
 18 Number 2, a map entitled Figure 1.7,
 19 Parcel Groupings Streamlined RI/FS
 20 For OU, South Dayton Dump and
 21 Landfill Site, Moraine, Ohio was
 22 marked for purposes of
 23 identification.)
 24 (Thereupon, Plaintiffs' Exhibit 43
 25 Number 3, an inter-office

Page 3

Page 5

1 correspondence from D.L. Zanders,
 2 dated 3-1-1983, with an attachment
 3 entitled an Account of Off-Site
 4 Chemical Waste Landfills, Bates
 5 labeled MONS01815 through MONS01819,
 6 was marked for purposes of
 7 identification.)
 8 (Thereupon, Plaintiffs' Exhibit 48
 9 Number 4, an inter-office
 10 correspondence from Dayton
 11 Laboratory, dated 5-9-1977, Bates
 12 labeled MONS001860 through
 13 MONS001862, was marked for purposes
 14 of identification.)
 15 (Thereupon, Plaintiffs' Exhibit 54
 16 Number 5, an inter-office
 17 correspondence from Dayton
 18 Laboratory/T. D. Beal, dated
 19 7-22-1977, Bates labeled MONS01825
 20 through MONS01826, was marked for
 21 purposes of identification.)
 22 (Thereupon, Plaintiffs' Exhibit 61
 23 Number 6, an inter-office
 24 correspondence from T. D. Beal -
 25 Safety, dated 11-27-1979, Bates

1 labeled MONS01824 was marked for
 2 purposes of identification.)
 3 (Thereupon, Plaintiffs' Exhibit 62
 4 Number 7, a handwritten document
 5 Bates labeled MONS01827, was marked
 6 for purposes of identification.)
 7 (Thereupon, Plaintiffs' Exhibit 64
 8 Number 8, an inter-office
 9 correspondence, from R. J.
 10 Janowiecki - EASC - Dayton, Lab -
 11 1250, dated 7-22-1980, Bates labeled
 12 MONS01828, was marked for purposes
 13 of identification.)
 14 (Thereupon, Plaintiffs' Exhibit 67
 15 Number 9, an inter-office
 16 correspondence from Safety and Loss
 17 Prevention, dated 10-24-1979, Bates
 18 labeled MONS01829, was marked for
 19 purposes of identification.)
 20 (Thereupon, Plaintiffs' Exhibit 70
 21 Number 10, an inter-office
 22 correspondence from Corporate
 23 Office, Dayton, dated 10-30-1979,
 24 Bates labeled MONS01830, was marked
 25 for purposes of identification.)

1 (Thereupon, Plaintiffs' Exhibit 73
 2 Number 11, an inter-office
 3 correspondence from S.A. Heininger -
 4 G5EA, dated 7-9-1979, Bates labeled
 5 MONS01831, was marked for purposes
 6 of identification.)
 7 (Thereupon, Plaintiffs' Exhibit 79
 8 Number 12, a handwritten document,
 9 dated 10-30-1979, Bates labeled
 10 MONS01836, was marked for purposes
 11 of identification.)
 12
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2 (Pages 2 to 5)

Mike Mobley Reporting(937) 222-2259

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Page 6

1 APPEARANCES:

2 On behalf of the Plaintiffs:

3 Langsam Stevens Silver & Hollaender

4 By: David Romine

5 Attorney at Law

6 1818 Market Street, Suite 3400

7 Philadelphia, Pennsylvania 19103

8 215-732-3255

9 On behalf of the Defendant Cox Media Group

10 Ohio, Inc.:

11 Faruki Ireland & Cox, P.L.L.

12 By: Erin E. Rhinehart

13 Attorney at Law

14 500 Courthouse Plaza, SW

15 10 North Ludlow Street

16 Dayton, Ohio 45402

17 937-227-3719

18 On behalf of the Defendant Franklin Iron &

19 Metal Corporation:

20 Crehan & Thumann, LLC

21 By: Robert A. Florez

22 Attorney at Law

23 1206 Race Street

24 Cincinnati, Ohio 45202

25 513-381-5050

On behalf of the Defendant Pharmacia, LLC, a

Delaware Limited Liability Company:

Krieg DeVault, LLP

By: Vicki J. Wright

Kay Dee Baird

Attorneys at Law

One Indiana Square, Suite 2800

Indianapolis, Indiana 46204

317-238-6372

Page 7

1 APPEARANCES: (Cont'd.)

2 On behalf of the Defendant Sherwin-Williams

3 Company:

4 Gallagher Sharp

5 By: Erik J. Wineland (Telephonically)

6 Attorney at Law

7 420 Madison Avenue, Suite 1250

8 Toledo, Ohio 43604

9 419-241-4863

10 On behalf of the Defendant Waste Management of

11 Ohio, Inc.:

12 Quarles & Brady

13 By: William H. Harbeck (Telephonically)

14 Attorney at Law

15 411 East Wisconsin Avenue

16 Milwaukee, Wisconsin 53202-4497

17 414-277-5000

18 On behalf of the Defendant, Kimberly Clark

19 Corporation:

20 Foley Lardner LLP

21 By: Sara H. Slack (Telephonically)

22 Attorney at Law

23 150 East Gilman Street

24 Suite 5000

25 Madison, Wisconsin 53703

608-258-4239

On behalf of the Defendant P-Americas, LLC:

Morgan, Lewis & Bockius

By: Steven A. Luxton

Attorney at Law

1111 Pennsylvania Avenue, NW

Washington, DC 20004

202-739-5779

Page 8

1 APPEARANCES: (Cont'd.)

2 On behalf of the Defendant The Dayton Power

3 and Light Company:

4 Bricker & Eckler

5 By: Daniel E. Gerken (Telephonically)

6 Attorney at Law

7 100 South Third Street

8 Columbus, Ohio 43215

9 614-227-2300

10 On behalf of the Defendant Bridgestone

11 Americas Tire Operations, LLC:

12 Wactor & Wick LLP

13 By: Anna L. Nguyen (Telephonically)

14 Attorney at Law

15 180 Grand Avenue

16 Suite 950

17 Oakland, California 94612

18 510-465-5750

19 On behalf of the Defendant Dayton Board of

20 Education:

21 Subashi & Wildermuth

22 By: Andrew E. Rudloff (Telephonically)

23 Attorney at Law

24 The Greene Town Center

25 50 Chestnut Street, Suite 230

Dayton, Ohio 45440

937-427-8800

On behalf of the Defendant Day International,

Inc.:

McDonald Hopkins LLC

By: Theodore J. Esborn (Telephonically)

Attorney at Law

600 Superior Avenue, East

Suite 2100

Cleveland, Ohio 44114

216-348-6400

Page 9

1 THOMAS D. BEAL, SR.

2 of lawful age, Witness herein, having been first

3 duly cautioned and sworn, as hereinafter

4 certified, was examined and said as follows:

5 CROSS-EXAMINATION

6 BY MR. ROMINE:

7 Q. Good morning, Mr. Beal.

8 A. Good morning.

9 Q. My name is David Romine, and I

10 represent the Plaintiffs in a lawsuit that I'm

11 sure you heard about. And thank you for coming

12 in today.

13 So a couple ground rules. Have you

14 had your deposition taken before?

15 A. Yes.

16 Q. Okay. So at the risk of repeating

17 what you may have heard before, the format is

18 I'm going to ask you some questions and you're

19 supposed to answer them to the best of your

20 ability. It's not a test so only say what you

21 know.

22 If I say something that you don't

23 understand, you can ask me to repeat it or

24 rephrase it. And also take turns. So in other

25 words, I'm going to ask the questions. Even if

3 (Pages 6 to 9)

Page 10

1 you know what I'm going to ask, wait for me to
2 finish so that the court reporter can take it
3 down. Then when you're answering, I'll wait for
4 you to answer before I butt in. It's okay to ask
5 for breaks. It's not an endurance test. I think
6 that's it.

7 Also, make sure that your answers are
8 verbal, such as yes or no, instead of nodding the
9 head, that way the court reporter can record it.

10 A. Okay.

11 Q. Great. So what's your full name?

12 A. It's Thomas Donald Beal, Sr.

13 Q. And how do you spell your last
14 name?

15 A. B E A L.

16 Q. And where do you live, Mr. Beal?

17 A. I live -- the entire address?

18 Q. Sure.

19 A. 57 Tranquil, T R A N Q U I L,
20 Trail, in Dayton, Ohio.

21 Q. And how old are you?

22 A. Sixty-five.

23 Q. And were you born in the Dayton
24 area?

25 A. Yes, sir.

Page 11

1 Q. Go to high school here?

2 A. Yes, sir.

3 Q. What high school?

4 A. West Carrollton.

5 Q. And did you have higher education
6 after high school?

7 A. Yes, sir.

8 Q. Where was that?

9 A. Sinclair Community College.

10 Q. Did you graduate from Sinclair?

11 A. Yes, sir.

12 Q. With a bachelor's degree?

13 A. No, sir.

14 Q. An associate's degree?

15 A. Yes, sir.

16 Q. And what was that degree in?

17 A. Fire protection safety risk
18 analysis.

19 Q. Did you attend further education
20 after Sinclair?

21 A. Yes, sir.

22 Q. And what was this?

23 A. Well, when you say that, are you
24 saying formal education --

25 Q. Yes. Like --

Page 12

1 A. -- or seminars and stuff like
2 that?

3 Q. For the moment, let's stick with
4 like degree-granting institutions.

5 A. Okay. No, I did not go any
6 farther.

7 Q. Are you employed now?

8 A. Yes, I am.

9 Q. With whom?

10 A. Washington Township Fire
11 Department.

12 Q. And where is Washington Township?

13 A. In Dayton, Ohio here.

14 Q. Is it within Montgomery County?

15 A. Yes, sir.

16 Q. Going back to the Sinclair period
17 or after that, did you get employment after
18 Sinclair, after getting your associate's
19 degree?

20 A. I had employment prior to it.

21 Q. Let's talk about that. Where were
22 you employed prior to Sinclair?

23 A. How far do you want to go back,
24 sir?

25 Q. Let's go back to -- good question.

Page 13

1 Let's go back to high school. Right after high
2 school.

3 A. Right after high school.

4 Q. Let's not worry about during high
5 school.

6 A. Right after high school, I worked
7 for H&H Machine & Tool in Kettering, Ohio as an
8 apprentice tool and die maker. I then went to
9 work for WBW Tool & Die. It was over here off
10 of Leo Street in Dayton. And from there I went
11 to Monsanto on 1515 Nicholas Road and worked
12 for them. And from there, I went to Monsanto
13 in Miamisburg, Ohio, and finished out my career
14 there.

15 Q. So if I understood you correctly,
16 you had two jobs with tool and die
17 manufacturers before you were hired by
18 Monsanto?

19 A. Yeah. I finished my
20 apprenticeship as a tool and die maker.

21 Q. Okay. And what year did you
22 graduate from high school?

23 A. '67.

24 Q. And what was the first tool and
25 die maker you worked for?

4 (Pages 10 to 13)

Mike Mobley Reporting(937) 222-2259

01f9fdcf-907d-4c07-92f0-5dc3d6ce22dd

Page 14

1 A. H&H.

2 Q. What years were those?

3 A. Well, it was in the summer of '67
4 I started there. I worked two years then. So
5 that's '67 and '68. And '69 and '70, I worked
6 at WBW.

7 Q. And so you were hired by Monsanto
8 in approximately 1970?

9 A. No. We had a big layoff in the
10 area on tool and die makers. They were trying
11 to organize as a union and all of a sudden,
12 work disappeared and I was unemployed for a
13 period of time. And I believe it was March of
14 1971 I started to work for Monsanto.

15 Q. And were you going to school like
16 part-time or at nights?

17 A. During my apprenticeship, yes, I
18 was going to a tool and die school here in
19 Dayton. Then when I started working at
20 Monsanto, I went to -- started at Sinclair on
21 the fire protection risk and safety analysis.

22 Q. So you didn't start at Sinclair
23 until after you were hired by Monsanto?

24 A. I believe that's correct.

25 Q. What position were you hired into

Page 15

1 at Monsanto?

2 A. I was a metrology technician on a
3 contract that they had at Wright-Patterson Air
4 Force Base.

5 Q. What is a metrology technician?

6 A. Basically I would take specimens
7 of metals, I would polish them, prepare them
8 for electron microscope work or for other tests
9 that they would do on them to look for
10 different materials, qualities of them, if they
11 failed or whatever. If the Air Force had a
12 failure on something, they'd bring the parts in
13 and we'd dissect them up and do things like
14 that. For that job also, I was sent to UD for
15 one quarter for metrology classes.

16 Q. When did you get your associate's
17 degree?

18 A. I don't know.

19 Q. Okay.

20 A. I'm sorry, I didn't -- I didn't
21 look and it's been so long ago, I can't --

22 Q. I understand. And so you had --
23 how long did you work for Monsanto?

24 A. Well, let's see, Monsanto left --
25 their contract was terminated sometime around,

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1 I think, 2000 with The Mound because I worked
2 for -- worked for the Dayton lab and then was
3 transferred then over -- down to the lab and I
4 was still under Monsanto then. And The Mound
5 lab was -- the contract, they decided to not
6 pick up the contract again -- or Monsanto
7 decided not to pick up the contract with the
8 DOE again. And then we worked -- I worked for
9 EG&G and W -- oh, gosh, I can't think of some
10 of the other contractors. I worked for them
11 until I retired from it. They just kept my
12 time all during that.

13 So I was very lucky that I ended up
14 with thirty-five or so years or thirty years in
15 with the -- with working there. But I can't
16 remember what -- what date exactly that Monsanto
17 terminated their contract down there at The Mound.
18 But I had worked at Nicholas Road from 19 -- March
19 3, 1971 till August of 1980 probably.

20 Q. And then in August, 1980, you
21 transferred to The Mound?

22 A. Yes.

23 Q. And if I understood you correctly,
24 at some point, you stopped working for Monsanto
25 but you got picked up by another country --

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1 excuse me -- picked up by another company doing
2 similar work?

3 A. Right. Right.

4 Q. And you think that was around the
5 year 2000?

6 A. I can't -- you know, I -- I can't
7 tell you. I don't remember what -- those dates
8 weren't really important in my bucket list.

9 Q. No problem.

10 (Thereupon, Plaintiffs' Exhibit
11 Number 1, a document entitled Montgomery County
12 Ohio General Health District Permit for Open
13 Burning, was marked for purposes of
14 identification.)

15 Q. So, Mr. Beal, I'm going to show
16 you what I've asked the court reporter to mark
17 as Plaintiffs' Exhibit 1. And I'm going to ask
18 you if you've seen that before.

19 A. Yes, I have.

20 Q. And what is it?

21 A. It is an open burn permit issued
22 by Montgomery County.

23 Q. And when did you first see this
24 open burn permit?

25 A. I have -- we received a couple of

5 (Pages 14 to 17)

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1 these because I applied for a couple of them
2 over the years, but they were for fire
3 extinguisher training at Monsanto on Nicholas
4 Road. I did fire training for all the
5 employees there. And for us to have the three
6 by three pan fires, we had to -- had to have
7 open burning permits. So I've seen a few of
8 these, yes, sir.

9 Q. So you're saying in order to do
10 fire training for Monsanto, you received an
11 open burn permit from Montgomery County?

12 A. Yes, sir.

13 Q. If I could direct your attention
14 specifically to where it says location, 1975
15 Springboro, South Dayton Dump & Landfill.

16 A. Uh-huh.

17 Q. Yes?

18 A. Are you saying that's on here?

19 MS. WRIGHT: It's right there.

20 THE WITNESS: Okay. Yes, sir.

21 Q. Did you get a permit for open
22 burning for the South Dayton Dump & Landfill
23 during your employment at Monsanto?

24 A. Yes, sir.

25 Q. Is this the permit?

Page 19

1 A. Yes, sir.

2 Q. Why did you get the permit?

3 A. Why? First of all, it was
4 required. Monsanto wanted to be a good
5 corporate citizen, and we followed all the
6 rules and regulations that we could find that
7 were applicable at that point in time. And we
8 followed them to the letter of the law. And
9 this was part of it. And that's what I did, is
10 I wrote out the paperwork, we reviewed it,
11 everybody reviewed it at work, my supervisor
12 did, and then I sent it off and we got the
13 permit to do this.

14 Q. So you applied for the permit?

15 A. Yes, sir.

16 Q. Do you remember applying for this
17 permit or you're thinking I must have applied
18 for this permit because that was my job at the
19 time?

20 A. During the time I was in charge to
21 do this, I applied -- I did the application
22 procedures for the permit.

23 Q. Okay. So I guess what I'm getting
24 at, do you specifically remember applying for
25 this permit, open burning at the South Dayton

Page 20

1 Dump & Landfill?

2 A. Thirty eight years is a long time.

3 A lot of paperwork has gone past me.

4 Q. So your answer would be?

5 A. Do I remember sitting here today,
6 no, I don't.

7 Q. Okay. Fair enough. Did Monsanto
8 do open burning on any occasion at the South
9 Dayton Dump & Landfill?

10 A. Yes, we did.

11 Q. On how many occasions?

12 A. I witnessed only one of them.

13 Q. Can you tell me about that?

14 A. The one that I witnessed probably
15 was -- or was connected to this 1975 -- or I
16 mean, 1977, '78 time frame or whatever,
17 wherever it was, that we did -- we got rid of
18 some combustible and flammable lab waste.

19 Q. And you actually went down to the
20 South Dayton Dump?

21 A. Yes, sir.

22 Q. And how was this waste transferred
23 from -- well, let me ask you this: Was this
24 lab waste at 1515 Nicholas Road?

25 A. Yes, sir.

Page 21

1 Q. And how was the waste transported
2 from 1515 Nicholas Road to the South Dayton
3 Dump & Landfill?

4 A. By pickup truck.

5 Q. In what kind of container?

6 A. Fifty-five open top container,
7 vermiculite in it, and lab bottles were put
8 inside. Lids were put on them, bolted up,
9 transported down there, opened down there at
10 the site.

11 Q. So you had a fifty-five gallon
12 drum and the waste was in smaller bottles and
13 the smaller bottles were put inside the
14 fifty-five gallon drum?

15 A. Correct.

16 Q. And how many of these fifty-five
17 gallon drums were there?

18 A. I don't remember.

19 Q. More than one?

20 A. Oh, yes, sir.

21 Q. Was the pickup truck full?

22 A. No.

23 Q. And when you say the fifty-five
24 gallon drum or drums had vermiculite in them,
25 what is vermiculite?

6 (Pages 18 to 21)

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1 A. I knew you were going to ask me
2 that. Vermiculite is a -- it's a material that
3 they commonly shipped chemicals in because
4 it's -- the nature of the material, it's like
5 the air bubble packaging that you see nowadays
6 that things are shipped in. It keeps the
7 bottles from banging into each other and
8 breaking and it also is a bit of an absorbent.
9 So if anything would happen to one of the
10 bottles, if they'd leak or something like that,
11 it would be absorbed in there and it wouldn't
12 be all running together and making a big mess.

13 Q. So the vermiculite wasn't waste?

14 A. No.

15 Q. It was for packaging purposes?

16 A. Right.

17 Q. How did the waste get from the
18 pickup truck out into the dump area?

19 A. Picked up and -- physically picked
20 up and moved off the truck bed out --

21 Q. And did you do that?

22 A. Yes, sir.

23 Q. Did anyone from Monsanto go with
24 you?

25 A. Yes, sir.

Page 23

1 Q. Who was that?

2 A. George Richardson.

3 Q. Anyone else?

4 A. I don't believe so.

5 Q. Is George Richardson still alive?

6 A. Unfortunately, no.

7 Q. And so what did you and George
8 Richardson do at the South Dayton Dump with the
9 waste chemicals?

10 A. We incinerate -- we would take the
11 bottles separately, one at a time, George would
12 look at them again, he'd make sure what we had
13 was a flammable or a combustible, and if it
14 was, then we would throw it on -- we had a
15 rock, a big boulder down in the pit we had and
16 we would break the bottle on the rock to ensure
17 that the fire would burn the materials.

18 Q. And how long did this whole
19 process take?

20 A. A couple days.

21 Q. Who started the fire?

22 A. I don't remember.

23 Q. Was it someone who worked for the
24 dump?

25 A. I don't -- I don't remember.

Page 24

1 Q. No problem. What was in the
2 bottles?

3 A. Anything and everything in
4 chemistry probably. I couldn't tell you
5 exactly. Most of them were -- I think the
6 level of combustible and flammable materials
7 that were in them was like methanol, acetone,
8 methyl ethyl ketone. They were things like
9 that. Of course, methyl ethyl ketone is not a
10 real big burner. But basically what they call
11 a solvent for the -- for the materials that
12 they'd have or mix-up and put in there.

13 But they were -- they were probably,
14 you know, quite heavily, fifty percent or better,
15 of those type of materials because we weren't
16 allowed to -- we had to -- we were given, I
17 believe, the permit on the grounds that it was
18 going to be -- they were flammable and combustible
19 materials. Nothing like a powder or anything like
20 that.

21 Q. So the idea was that all the waste
22 material could be burned?

23 A. Correct.

24 Q. And actually was burned?

25 A. Correct.

Page 25

1 Q. Now, did Mr. Richardson look at
2 any bottles and say oh, no, this isn't
3 flammable, we're not going to dispose of this
4 here?

5 A. I don't remember if he did or
6 didn't because he and I put the bottles -- he
7 looked at them and he'd hand them to me and I'd
8 put them in the drop and then package them up
9 or put some vermiculite around them. He just
10 kept handing them to me because Mr. Richardson
11 was deciding on what we were burning and
12 what -- or taking over there to burn.

13 And he -- George was a Ph.D. I
14 believe he also -- he taught at UD chemistry
15 school -- or chemical there. And George knew --
16 knew the chemistry. And he was telling me what to
17 put in. He would not give me anything that we
18 couldn't burn to take over there.

19 Q. Was any vermiculite disposed of
20 there?

21 A. I don't remember.

22 Q. You say this took a couple days.
23 You went down there on more than one day, to
24 the South Dayton Dump?

25 A. Yes.

7 (Pages 22 to 25)

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1 Q. And it was consecutive days?
 2 A. Yes.
 3 Q. And each day you had a pickup
 4 truck with waste chemicals in it?
 5 A. No.
 6 Q. That's what I'm trying to get at.
 7 Why did it take more than one day?
 8 A. Well, first day was site
 9 preparation. So we had no reason to take any
 10 chemicals there for that day.
 11 Q. Okay.
 12 A. Second day, we took down what we
 13 were -- the amount that we were going to burn
 14 that day and we took care of that. Then the
 15 next day, we came back and did the same thing.
 16 And then the last day, which would have been
 17 about -- it would have been approximately the
 18 four days -- the site was filled back in. We
 19 made sure the fire was out and the site was
 20 filled back in and we went back and brought
 21 the -- I'm for sure we brought the drums back,
 22 back over to 1515 Nicholas Road.
 23 Q. So it sounds like of the four
 24 days, the real disposal part of it took place
 25 during the two middle days?

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1 A. Yes, sir.
 2 Q. And was it two loads of the pickup
 3 truck, one per day or only one pickup truck
 4 total for both days?
 5 A. It was two loads, but we didn't
 6 fill the truck up.
 7 Q. So it was two loads, one on each
 8 day --
 9 A. Uh-huh.
 10 Q. -- but neither day had a shop full
 11 of waste pickup load?
 12 A. Correct.
 13 Q. Was there any difference in the
 14 materials during the two days? Was there a
 15 purpose for having substance X go on the first
 16 day and substance Y go on the second day?
 17 A. No.
 18 (Thereupon, Plaintiffs' Exhibit
 19 Number 2, a map entitled Figure 1.7, Parcel
 20 Groupings Streamlined RI/FS For OU, South Dayton
 21 Dump and Landfill Site, Moraine, Ohio was marked
 22 for purposes of identification.)
 23 Q. I'm going to show you what we've
 24 marked as Plaintiffs' Exhibit 2. This is a
 25 more recent -- I don't know whether you'd call

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1 it a map or chart -- of the South Dayton Dump.
 2 I'm wondering, can you show me approximately
 3 where on this chart that's been marked as
 4 Plaintiffs' Exhibit 2 that you took the waste?
 5 A. No, sir, I would not be able to do
 6 that.
 7 Q. Do you remember any of the people
 8 that you dealt with at the dump?
 9 A. No, sir.
 10 Q. And did you have any help from any
 11 contractor, either for a waste disposal or for
 12 burning at the dump?
 13 A. Yes, sir.
 14 Q. And who was that?
 15 A. I believe it was Earl D. Creager.
 16 Q. Is that a guy or a company?
 17 A. That's a company.
 18 Q. And what did the company do?
 19 A. They were -- they did major road
 20 building and utility work and site preparations
 21 for buildings here in Montgomery County.
 22 Probably bigger than that.
 23 Q. And what was their particular job
 24 for this job?
 25 A. They prepared the site for us and

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1 then they ran the equipment. They referred to
 2 it as an air curtain destructor unit. And they
 3 ran that unit for us during the time of the
 4 burns.
 5 Q. And what was the purpose of the
 6 air curtain destructor? Is that what it's
 7 called?
 8 A. That's what they referred to it
 9 as. You might remember when they were putting
 10 the interstates through, they had a lot of
 11 trees to get rid of. And you see it sometimes
 12 nowadays. And what they would do is to dig a
 13 pit to a certain length, width, and depth.
 14 Then they would back this unit up to it and it
 15 had a big blower on it and it would blow up
 16 against the far wall of the pit, make a
 17 circular air flow inside the pit, and they push
 18 the trees in them and it would not pollute
 19 then. The pollution would be to a minimum. I
 20 don't want to say it didn't. It doesn't take
 21 care of everything, but it helps the combustion
 22 of materials that are inside that area.
 23 Q. And did you arrange for the
 24 Creager company to come do this?
 25 A. Yes.

8 (Pages 26 to 29)

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1 Q. Do you remember the name of the
2 person you spoke with?
3 A. No.
4 Q. Do you remember the name of the
5 guys that were there?
6 A. No.
7 Q. So the idea was to help combustion
8 and reduce fumes and pollution?
9 A. Correct.
10 Q. And were they there on the job all
11 four days?
12 A. Yes.
13 Q. So the fire was in a pit?
14 A. Correct.
15 Q. How deep was the pit?
16 A. I'd say somewhere over eight foot
17 tall -- eight foot in depth.
18 Q. Did you go down into the pit?
19 A. No. Because if I did, I couldn't
20 get back out.
21 Q. So did you like throw the bottles
22 against the rock?
23 A. Yeah. They cut the pit, put a
24 boulder in there, the dump furnished us with
25 skids, and we would put those down around the

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1 boulder, start the fire, and then once the fire
2 was going pretty good, then they would start up
3 the air curtain destructor blower unit and it
4 would start -- do its thing and then we would
5 throw the laboratory waste bottles, the little
6 laboratory bottles, against the boulder and
7 break them.
8 Q. And when you say we would throw,
9 you and Mr. Richardson?
10 A. Yes. Both of us.
11 Q. Anybody else?
12 A. No.
13 Q. Was the boulder there or did
14 someone put the boulder there for your
15 purposes?
16 A. They found the boulder someplace
17 on-site and put it in -- down in there.
18 Q. Okay. Creager did?
19 A. Yes.
20 Q. Did Creager dig the pit?
21 A. Yes.
22 Q. On the fourth day, did you see
23 someone fill in the pit?
24 A. Yes.
25 Q. And was that Creager?

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1 A. Yes.
2 Q. What did they use to fill the pit?
3 A. Backhoe.
4 Q. But like what material, dirt?
5 A. Yeah, the dirt he dug out. They
6 brought one guy in, he brought -- well,
7 they brought the one guy in and he was the
8 backhoe operator and the air curtain destructor
9 unit operator. And he's the one that stayed
10 with us.
11 The guy that brought the backhoe on a
12 trailer, you know, he just came in, pulled the
13 unit off, and he left. So it was only the one
14 guy. He was the guy that was going to do
15 everything for us. So he dug the dirt out,
16 stacked it over to the side. He prepared the hole
17 like it needed to be prepared for it to work
18 correctly. And then when he got done with that
19 and we were done with everything, made sure the
20 fire was out, then he backfilled it all, they came
21 and got all their equipment and left.
22 Q. Who chose where at the dump the
23 hole was going to be dug?
24 A. It wasn't me. I don't know, but
25 it wasn't George or I.

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1 Q. It wasn't someone from Monsanto?
2 A. No.
3 Q. It could be Creager?
4 A. No.
5 Q. It was someone at the dump?
6 A. I would say that they told us
7 here's where you do it.
8 Q. Do you know why they chose
9 whatever location it was?
10 A. Other than -- no. Well, I only
11 can speculate, so no.
12 Q. Did Monsanto get open burning
13 permits for the South Dayton Dump & Landfill on
14 any occasion, other than the job you just
15 described to me?
16 A. The best of my knowledge and of my
17 belief, I was told one other time they had
18 prior to me being there.
19 Q. Okay. So does that mean prior to
20 1971?
21 A. Yes. I would say. Well, from '71
22 to '7 -- what, '72 or '73, I was at
23 Wright-Patterson.
24 Q. I see.
25 A. So I was not there at that point

9 (Pages 30 to 33)

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1 in time. I -- I -- the first two years I was
 2 at Wright-Patterson. Then I was transferred
 3 back to the Dayton lab.
 4 Q. I see. So the job that we were
 5 just talking about, that was -- I think you
 6 said -- and correct me if I'm wrong -- '77,
 7 '78, sometime in there?
 8 A. Somewhere around in there.
 9 Q. And so you were told that Monsanto
 10 got a permit for open burning at the South
 11 Dayton Dump some other previous time before you
 12 started working at 1515 Nicholas Road?
 13 A. Correct.
 14 Q. So that would have been before,
 15 sometime in 1973, because that's when you
 16 switched from Wright-Patterson Air Force
 17 business to Nicholas Road?
 18 A. Correct. Yes.
 19 Q. Who told you that?
 20 A. I believe George Richardson told
 21 me that. And I also believe that I heard it
 22 from Al Weishaar.
 23 Q. All Weishaar?
 24 A. Yes.
 25 Q. And was the purpose of that one

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1 other occasion the -- a similar burning of
 2 chemical waste?
 3 A. I do not know. I don't remember
 4 having that detailed of a conversation about
 5 it.
 6 Q. But you yourself only witnessed
 7 this one job?
 8 A. George and I did.
 9 Q. Did Mr. Weishaar go with you?
 10 A. No.
 11 Q. Why?
 12 A. It wasn't his assigned duties at
 13 that point in time.
 14 Q. Did he tell you that he had gone
 15 this other occasion?
 16 A. I had discussed it with him and
 17 had not got into any real details with him,
 18 other than there had -- this had been done once
 19 other -- one other time.
 20 Q. Okay. So he didn't tell you
 21 really one way or the other whether he himself
 22 personally had gone?
 23 A. Correct.
 24 Q. And did Mr. Richardson tell you
 25 that he had gone -- did Mr. Richardson tell you

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1 that he, Mr. Richardson, had gone to do a
 2 similar job at other times?
 3 A. I don't remember if George told me
 4 that or not.
 5 Q. Okay.
 6 A. I do know George had knowledge of
 7 one other burn.
 8 Q. One other time?
 9 A. Uh-huh.
 10 Q. Do you -- was it your
 11 understanding that the one other time that Mr.
 12 Richardson -- Mr. Richardson's reference to
 13 one other time and Mr. Weishaar's reference to
 14 one other time was the same job? Does that
 15 make any sense?
 16 A. Well, I believe it was.
 17 Q. Okay. Is there anyone other than
 18 Mr. Richardson who knew more definitely what
 19 was disposed of during that job?
 20 A. Not really. The only person that
 21 might have any knowledge at all would be John
 22 Shar. And John was the chemist with the
 23 laboratory next to George and they were very
 24 good friends and he also was a -- was an
 25 instructor at UD at the chemicals school over

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1 there.
 2 Q. When you say UD, you're referring
 3 to the University of Dayton?
 4 A. Yes, sir. Excuse me.
 5 Q. And how do you spell Shar?
 6 A. I think it was S H A R. And I
 7 don't know if there was a silent E like on the
 8 end or not. But that's how I believe it was
 9 spelled, yeah.
 10 Q. What I want to do is go back and
 11 talk about your different job titles or duties
 12 at Monsanto.
 13 So, say, starting in March of
 14 1971, you worked at Wright-Patterson Air Force
 15 Base on a contract, but your employer was
 16 Monsanto?
 17 A. Correct.
 18 Q. And tell me again your job title
 19 at that point.
 20 A. I was a metrology technician.
 21 Q. And then sometime, if I'm saying
 22 this correctly, in 1973, you started working at
 23 1515 Nicholas Road?
 24 A. Correct.
 25 Q. And what was your job title at

10 (Pages 34 to 37)

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1 that time?
 2 A. I was a model maker.
 3 Q. A model maker?
 4 A. Right.
 5 Q. What kind of models? Why were you
 6 a model maker? What kind of models did you
 7 make?
 8 A. Well, when you say a model maker,
 9 that's sort of a glorified tool and die maker.
 10 We make parts and instruments and stuff
 11 supporting the scientists there, the chemists
 12 and scientists there at Monsanto.
 13 Q. And how long were you a model
 14 maker?
 15 A. Probably about two years.
 16 Q. And after that?
 17 A. They asked me if I wanted to work
 18 as a safety technician for them and also take
 19 care of the first aid and medical on the site
 20 because the company doctor was retiring and
 21 they didn't want to replace the doctor. So
 22 they asked me if I would want to do that. It
 23 was a totally new position and a way of doing
 24 things at that point in time. It would bring
 25 them in line with the OSHA standards.

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1 Q. And so at some point, say, roughly
 2 in 1975, did that health and safety become your
 3 full-time job?
 4 A. Yes.
 5 Q. And then I think you said around
 6 1980, you were transferred to The Mound?
 7 A. Yes.
 8 Q. And what is The Mound?
 9 A. The Mound is the Department of
 10 Energy's site in Miamisburg, Ohio that is
 11 contract -- that had a contractor, Monsanto.
 12 It worked in nuclear and weapons development
 13 down there.
 14 Q. And you stayed at The Mound until
 15 approximately the year 2000?
 16 A. No. I stayed -- I stayed there
 17 way past that. I worked for Monsanto there
 18 until -- I believe somewhere around 2000 is
 19 when the changeover started.
 20 Q. So it was a site that was owned by
 21 the Federal Government, I take it?
 22 A. Correct.
 23 Q. And at the time, in 1980, when you
 24 were there, the contract was Monsanto?
 25 A. Correct.

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1 Q. But at some point the Monsanto
 2 contract ended and another company took over?
 3 A. Correct.
 4 Q. And when that happened, you worked
 5 for the new company?
 6 A. Correct. They picked me up.
 7 Q. And what was your job at The
 8 Mound? What jobs?
 9 A. Yes, jobs. Let's see. I started
 10 out working as an inspector in the gauge lab.
 11 And all the gauges we used to make the
 12 detonator parts and things like that had gauges
 13 to them and we inspected them and made sure
 14 they were reading correctly and things like
 15 that. So that was the first job.
 16 I transferred then to -- well, I
 17 don't know if I want to say I was transferred.
 18 I was sort of drug up to the machine shop where
 19 I took care of the gauging of -- of the parts
 20 up there for a while. And then I -- see,
 21 probably where you're getting a disconnect,
 22 when I was twenty-one years old, I joined the
 23 volunteer fire department in Miami Township and
 24 all during this time, I had been in training,
 25 all the training and stuff with the fire

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1 department and the EMS, medical stuff, and that
 2 was the link that got me to the safety and
 3 first aid at Nicholas Road, okay? And during
 4 all that time I was going to Sinclair and other
 5 schools and things and got my paramedic
 6 certifications and all that. So that's the
 7 connection that maybe was a little bit unclear,
 8 how I got where I got.
 9 So anyway, back to where we were
 10 at The Mound. After the machine shop, there
 11 was a -- they took me over to a -- to another
 12 part of The Mound where I did QC work on RTGs,
 13 radio -- gosh, I can't think -- radio isotopic
 14 generators. Basically what they are is a
 15 nuclear generator for electricity for deep
 16 space shuttles. So they took me over there as
 17 a quality control person for the data for all
 18 the testing of the RTGs that we did down there
 19 at The Mound.
 20 From there, they had an opening in
 21 the decommissioning and the cleanup of the
 22 nuclear waste facilities on the site and they
 23 had a safety position open there and I applied
 24 for it and received that job and started back
 25 in doing safety full-time as my career.

11 (Pages 38 to 41)

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1 I then ended up -- from there, I
2 ended up back over at the safety department; and
3 since I had some knowledge of construction and
4 everything else, I did the safety oversight of all
5 the contractors that would come in and do
6 construction or demolition at The Mound.

7 And then the fire protection engineer
8 retired so I was filling in for him when he'd go
9 on vacation and things. Since I had the associate
10 degree in fire protection, I knew what standards
11 were for what Monsanto had for -- and the
12 Department of Energy -- what they had for fire
13 protection so I would fill in for that fellow.
14 Then when he retired, I took his job and reporting
15 to the fire chief down there. And when the fire
16 chief retired, they made me fire chief. So I
17 ended my career in 2004, last day of May of 2004,
18 as the fire chief of The Mound lab. Does that
19 fill in all the disconnects?

20 Q. I think it does.

21 A. I hope it does.

22 Q. And so was your -- was your job
23 fire chief in 2000 when Monsanto transitioned
24 off and the new company came on?

25 A. No.

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1 Q. What was your job at that time?

2 A. I was still safety.

3 MR. ROMINE: Do you mind if we take
4 like a five-minute break?

5 MS. WRIGHT: No.

6 (Thereupon, Plaintiffs' Exhibit
7 Number 3, an inter-office correspondence from D.L.
8 Zanders, dated 3-1-1983, with an attachment
9 entitled an Account of Off-Site Chemical Waste
10 Landfills, Bates labeled MONS01815 through
11 MONS01819, was marked for purposes of
12 identification.)

13 Q. So, Mr. Beal, I'm going to show
14 you what we've marked as Plaintiffs' Exhibit 3.
15 It's like a five-page document. Down at the
16 bottom it has the numbers MONS1815 through
17 1819.

18 A. Okay.

19 Q. I'm going to show you, have you
20 seen this before?

21 A. Yes.

22 Q. When did you see it before?

23 A. Probably somewhere around the date
24 that it was -- that it was produced, March 1st
25 of 1983.

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1 Q. I'm just going to ask you about
2 some people that are named on here. Who is
3 D. L. Zanders?

4 A. Don Zanders. I can only tell you
5 that he was my -- I worked for him on some side
6 jobs -- or on assignments at Nicholas Road. I
7 worked for him on a couple different contracts
8 that he had. I -- I don't recollect that he
9 was my official boss, but I just supported him
10 in some assignments -- or some contracts that
11 he had that needed -- they wanted some of my
12 expertise to work with them on things. So I'd
13 been pretty much all over the United States
14 with Don Zanders.

15 Q. Is he still alive?

16 A. You know, I couldn't tell you.

17 Q. And he worked at 1515 Nicholas
18 Road?

19 A. Yes.

20 Q. But by this time, 1983, you were
21 at The Mound?

22 A. Right. I still kept connection
23 back with George and those people.

24 Q. And then G. L. Jesse?

25 A. I have no recollection other than

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1 he was at corporate in St. Louis.

2 Q. Monsanto headquarters?

3 A. Yes.

4 Q. W. B. Witmer?

5 A. He was -- Dr. Witmer was over
6 the -- I believe over all the chemists and
7 scientists at 1515 Nicholas Road.

8 Q. He was in some supervisor
9 capacity?

10 A. Yeah.

11 Q. Is he still alive?

12 A. I have no idea.

13 Q. And the next name, I'm not even
14 going to try to pronounce it.

15 A. Tom Ctvrtnicek.

16 Q. Ctvrtnicek?

17 A. Ctvrtnicek. Yes.

18 Q. Okay. What was his job?

19 A. Well, Tom worked for Witmer. I
20 don't know if Tom was a chemist or an engineer.
21 I can't remember. But he also worked with
22 Zanders. You know, if we'd get a contract in
23 from EPA or somebody like that, we'd round up
24 the core of the people that we would need to
25 support that contract. So you would see people

12 (Pages 42 to 45)

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1 like that, you know, in and out. On certain
 2 contracts you'd be working on one contract with
 3 them for that, one for another one that we had
 4 with University of Cincinnati on a waste site
 5 -- not a waste site. I can't even think what
 6 to call it now -- the city, where we send our
 7 doctor -- dispose of our waste from our --
 8 sanitary waste. We worked on contract through
 9 UC on that, things like that. So those type of
 10 jobs that we'd get in, we'd have different
 11 makeups of different people on there, engineers
 12 and chemists and people like that, and we'd all
 13 get together to have little assignments to do
 14 for that.

15 Q. You mentioned a sanitary waste
 16 facility where Monsanto sent sanitary waste.

17 A. No, we didn't send any to it. We
 18 just had a contract for a safety oversight of
 19 the Cincinnati's --

20 Q. I see.

21 A. And we were trying to get the
 22 contract with -- through UC, University of
 23 Cincinnati.

24 Q. Okay.

25 A. So --

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1 Q. And R. M. Scott?

2 A. I remember the name. I don't
 3 remember exactly what Mr. Scott's position was.

4 Q. B. J. Gilhausen?

5 A. He was somebody up in corporate.
 6 And I have no idea what he did or what --

7 Q. How do you know he was in
 8 corporate?

9 A. Because of the G3WB behind his
 10 name.

11 Q. What does that mean?

12 A. If you look G. L. Jesse, it's
 13 G3WG, St. Louis. It's the same. That was a
 14 coding for those folks. Mail stop probably.
 15 Because I've never met him.

16 Q. If you look at the very next page,
 17 the one with 1816 at the bottom, about the
 18 middle of the page, there's a mention of South
 19 Dayton Dump & Landfill.

20 A. Okay.

21 Q. Do you see where it says method of
 22 disposal treatment, it says landfill?

23 A. Uh-huh.

24 Q. Yes?

25 A. Yes, I do. Excuse me. I'm sorry.

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1 Q. That's okay. And then it says
 2 waste components inorganics in one hundred
 3 pound sacks?

4 A. Correct.

5 Q. Was that disposal the same job
 6 that you just described to me this morning
 7 where you burn the chemicals?

8 A. No.

9 Q. This is something different?

10 A. Totally. That I have no knowledge
 11 of.

12 Q. That was my next question. Were
 13 you aware of the disposal of these inorganics
 14 in hundred pound sacks?

15 A. No, sir.

16 Q. Do you remember reading this memo
 17 around the 1983 time frame?

18 A. Yes, I looked at it and filed it
 19 away.

20 Q. Do you remember talking to anyone
 21 about this memo?

22 A. Not really.

23 (Thereupon, Plaintiffs' Exhibit
 24 Number 4, an inter-office correspondence from
 25 Dayton Laboratory, dated 5-9-1977, Bates labeled

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1 MONS001860 through MONS001862, was marked for
 2 purposes of identification.)

3 Q. Have you had a chance to look at
 4 Exhibit 4?

5 A. Yes, sir.

6 Q. Have you seen this before?

7 A. Yes, sir.

8 Q. When?

9 A. I remember looking at it last
 10 night.

11 Q. Do you remember looking at it in
 12 1977?

13 A. I would say yes for sure because
 14 it's got my name on it. Anything that has got
 15 my name on it, I read.

16 Q. But do you remember reading it?

17 A. Sitting at a certain desk on a
 18 certain day reading it, no.

19 Q. Okay. Fair enough. Who is R. K.
 20 Flitcraft?

21 A. R. K. Flitcraft. Mr. Flitcraft
 22 was the president of Monsanto Research
 23 Corporation. And I believe it was probably
 24 during that time.

25 Q. Was his office at 1515 Nicholas

13 (Pages 46 to 49)

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1 Road?
 2 A. Yeah, he had split offices
 3 between The Mound and 1515 Nicholas Road.
 4 MR. GERKEN: Do we have a Bates stamp
 5 for Exhibit 4?
 6 MR. ROMINE: MONS1860 through 1862.
 7 MR. GERKEN: Thanks very much.
 8 MR. HARBECK: Would you mind just for
 9 the prior exhibit and this one, just giving a
 10 description of it so we on the phone know what
 11 kind of document you're looking at, even if it's
 12 just simply a date and what it's titled or
 13 something like that, to give us an idea as to what
 14 you're asking the witness about.
 15 MR. ROMINE: Sure. Let's go back
 16 then to Monsanto -- or excuse me -- to Plaintiffs'
 17 Exhibit 3. And that is a memo dated March 1, 1983
 18 from D. L. Zanders to J. L. Jesse. And after the
 19 one-page memo, there's a list of -- a list of, for
 20 lack of a better word, disposal sites.
 21 And then Plaintiffs' Exhibit 4 is a
 22 memo from R. L. Long to R. C. Hart. And the
 23 subject is handling Dayton laboratory waste
 24 chemicals dated May 9, 1977.
 25 MR. HARBECK: Thank you.

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1 Q. And then R. C. Hart, who is he?
 2 A. Are you asking me?
 3 Q. Yes. Sorry about that.
 4 A. Mr. Hart was the manager of the
 5 pilot plant and the maintenance group, which is
 6 where I fell under for safety and the first
 7 aid. So he was the manager of our group.
 8 Q. How about going down to the bottom
 9 of the page, Al Weishaar? Who is Al Weishaar?
 10 A. Who is Al Weishaar? Al Weishaar
 11 is a -- I believe he had a degree in chemistry.
 12 He -- his major function at the site was he ran
 13 the electron microscope and then filled in and
 14 did other things on the side when he had no --
 15 he didn't have work for the -- for that.
 16 Q. How about Dick Juterbach?
 17 A. Dick Juterbach was in charge of
 18 the pilot plant.
 19 Q. How about R. L. Long?
 20 A. Mr. Long was the purchasing agent
 21 for the site.
 22 Q. It says P&D supervisor. What does
 23 that stand for?
 24 A. Purchasing and -- I don't know.
 25 All I can say is I know he was our purchasing

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1 agent.
 2 Q. No problem.
 3 A. We all sort of had fancy --
 4 Q. I understand. Is Mr. Juterbach
 5 still alive?
 6 A. I could not tell you.
 7 Q. How about Mr. Long?
 8 A. Could not tell you.
 9 Q. If you go to the top of the second
 10 page, the memo says this continued until 1976
 11 when Tom Beal took over for laboratory
 12 generated waste. And I, I guess that's
 13 Mr. Long, continued to handle the pilot plant
 14 waste disposal. George.
 15 So first of all, is this accurate,
 16 did you take over for laboratory waste in 1976?
 17 A. Yes.
 18 Q. Were there locations other than
 19 the South Dayton Dump where you -- you sent
 20 laboratory-generated waste?
 21 A. Yes.
 22 Q. Where were they?
 23 A. We would have to go back. I
 24 can't -- I can't tell you straight off the top
 25 of my head. We'd have to go back to your other

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1 example that Don Zanders put together. I think
 2 it says in there what went where.
 3 Q. You mean the last exhibit, Exhibit
 4 3?
 5 A. Yes. Exhibit 3, sir.
 6 Q. So you're saying that Exhibit 3 is
 7 probably an accurate description of what went
 8 where?
 9 A. I would say it is pretty close to
 10 being totally accurate.
 11 Q. Okay. So, for example, if we go
 12 to the second page of Exhibit 3, which is
 13 MONS1816, that talks about chemical waste
 14 landfills, there's a list of where chemical
 15 waste was landfilled?
 16 A. Correct.
 17 Q. And then the next page, a little
 18 bit different, it says chemical waste
 19 incineration?
 20 A. Correct.
 21 Q. And then the next page, 1818,
 22 on-site burial locations?
 23 A. Correct.
 24 Q. And then 1819, chemical scrap
 25 reclamation sites?

14 (Pages 50 to 53)

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1 A. Correct.

2 Q. So you're saying this is fairly
3 accurate?

4 A. To the best of my knowledge and
5 belief, I can -- a lot of this I can -- I
6 remember. And there's a couple of them in
7 there that I don't.

8 Q. Okay. Fair enough.

9 A. Or I was not involved in.

10 Q. Fair enough. If we go to page --
11 we're still sticking with Exhibit 3 now. If
12 you'd go to the third page, 1817.

13 A. Okay.

14 Q. Again, in the middle of the page,
15 it says city dump site, in Moraine City, Ohio.

16 A. Correct.

17 Q. Do you think that this entry on
18 page 1817 refers to the burning of chemical
19 waste at the South Dayton Dump that we were
20 talking about this morning?

21 A. Could be.

22 (Thereupon, Plaintiffs' Exhibit
23 Number 5, an inter-office correspondence from
24 Dayton Laboratory/T. D. Beal, dated 7-22-1977,
25 Bates labeled MONS01825 through MONS01826, was

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1 marked for purposes of identification.)

2 Q. So what I marked as Plaintiffs'
3 Exhibit 5 is a two-page document. It's
4 MONS1825 to 1826. And it's a memo from Thomas
5 D. Beal and George A. Richardson to E. E.
6 Hardy dated July 22, 1977.

7 Mr. Beal, have you seen
8 Plaintiffs' Exhibit 5 before?

9 A. Yes.

10 Q. When?

11 A. Last night. And I'm the one
12 that -- George and I put this together, wrote
13 this memo.

14 Q. Do you remember writing the memo?

15 A. Yes.

16 Q. Who is Mr. Hardy?

17 A. Dr. Hardy was the director of the
18 Dayton lab.

19 Q. How about Mr. Guthrie?

20 A. John Guthrie was my immediate
21 boss.

22 Q. Is Mr. Hardy still alive?

23 A. I doubt it. I have no idea.

24 Q. I understand. But you think
25 he's -- if he were alive, he would be very

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1 elderly?

2 A. Oh, yeah.

3 Q. How about Mr. Guthrie?

4 A. John could still be alive, yes.

5 Q. In the middle of the first page,
6 it says the next step entails location and
7 inspection of an offsite disposal area or
8 facility. Do you see that?

9 A. Yes, sir.

10 Q. Did you do any location and
11 inspection of offsite disposal areas or
12 facilities?

13 A. Yes, sir.

14 Q. And where did you go for this
15 location and inspection?

16 A. If we go back to your other
17 exhibit --

18 Q. Sure.

19 A. -- if I could use that.

20 Q. Exhibit 3?

21 A. Yes, sir.

22 Q. Sure.

23 A. I would say I've been to most of
24 these places.

25 Q. Okay.

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1 A. Ones that I can tell you about

2 that I personally did work on, if we go to the
3 first page, MONS01816 -- would it help if I
4 just go down the whole list and say where I've
5 been -- which ones I've been to and --

6 Q. Why not.

7 MS. WRIGHT: That's fine.

8 THE WITNESS: Would that help?

9 Q. Yeah.

10 A. Okay. I was not at the first one
11 on Vance Road. Edgewood Arsenal, I did not go
12 to. That was probably a government contract
13 anyway. Wright-Patterson, definitely I did not
14 do that one. I know nothing. South Dayton
15 Landfill, I don't know anything about that
16 waste component there. And for the life of me,
17 I can't remember what it was or what they could
18 have put over there.

19 Q. You're talking about --

20 A. The inorganics.

21 Q. Yeah. Okay.

22 A. I have no idea about that. The
23 one in Seymour, Indiana, I don't know about
24 that neither. That looks to me to be plastic
25 scrap. Delaware, Ohio, I was there. Pristine

15 (Pages 54 to 57)

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1 in Reading, Ohio, I was there. We used them.
 2 They were an approved -- approved incineration
 3 site also. I don't understand why they've got
 4 them in here as landfill because my
 5 recollection was most of the stuff I used was
 6 incinerated there. CECOS, they've got
 7 Williamsburg, Ohio, it's down outside of
 8 Batavia, I believe, was where the site was. I
 9 had been there and they were recommended,
 10 placed by Ohio EPA to do solids, things that
 11 weren't flammable, per se.

12 Then if we go to the next page, which
 13 is MONS01817, again, there's Edgewood Arsenal, and
 14 I did not go there. I don't believe I was on the
 15 Terre Haute, Indiana trip. Neither that one nor
 16 the American Chemical Service one at Griffin,
 17 Indiana. I probably -- Mr. Long used those places
 18 for the waste stream that came out of the pilot
 19 plant because they were pretty good quantities of
 20 like methanol and acetone and stuff like that.
 21 They use those as like a vehicle to transport the
 22 chemicals around in the systems over in there and
 23 then once they filtered everything out, we had,
 24 you know, large quantities of methanol and acetone
 25 and stuff that we needed to get rid of because you

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1 can't use it again to make -- to use it in another
 2 batch or anything else. It had to always be grade
 3 A, top line purity on the chemicals.

4 Then there's the city dump site in
 5 Moraine. If that's the one we are currently here
 6 and talking about, I was there, so, yes, I
 7 inspected it.

8 Q. So that might be the South Dayton
 9 Dump?

10 A. That might be. The author would
 11 have to tell you. Again, Pristine, I was
 12 there. Dayton Incinerator, what was burnt up
 13 there at Dayton Incinerator was just filter
 14 papers, stuff like that that didn't have any
 15 real chemical involvement, other than they were
 16 just filter papers for when we did air testing
 17 of smoke stacks, coal mines, things like that
 18 that we had contracts to do.

19 Robert Ross & Sons, yes, I was
 20 there on that one. They did a lot of work for
 21 us also getting rid of incineration of
 22 chemicals.

23 Going to the next page which is
 24 MONS01818 --

25 Q. It looks like this page is all --

1 A. This is all burial, on-site. I
 2 wasn't around for that. Last page, MONS01819,
 3 these were some of the reclaimers. We tried to
 4 reclaim stuff, too, and tried to reuse things.
 5 And let's see, I was at the Wapakoneta, C&C
 6 Supply, Chemical Recovery, Custom Industrial
 7 Waste & Disposal, Louisville, Inland Chemical,
 8 yes.

9 I don't remember the -- is it
 10 Konolrad Industries. Oh, I think that was part of
 11 a -- that company bought some of our methanol and
 12 stuff because they manufactured -- they
 13 manufactured snap-on motte products, and they
 14 could use the methanol and the blue stuff that you
 15 put in your car windshield washer thing. So they
 16 loved having that waste stream because they could
 17 get the methanol at a much fairer price, scrap
 18 price. And I was never at Superior Oil Company in
 19 Indianapolis. And I believe that takes care of
 20 the list.

21 And that would be to the best of my
 22 knowledge and belief.

23 Q. Fair enough.

24 A. I don't remember anybody else at
 25 this point in time, any other places that

1 weren't on here that I went to.

2 (Thereupon, Plaintiffs' Exhibit
 3 Number 6, an inter-office correspondence from T.
 4 D. Beal - Safety, dated 11-27-2979, Bates labeled
 5 MONS01824 was marked for purposes of
 6 identification.)

7 Q. So Plaintiffs' Exhibit 6 is a
 8 one-page document, MONS1824. It's a memo from
 9 T. D. Beal to H. L. Williams dated November 27,
 10 1979.

11 So, again, Mr. Beal, have you seen
 12 this before?

13 A. Yes, sir. I wrote this.

14 Q. Do you remember writing it?

15 A. Yes.

16 Q. And who is H. L. Williams?

17 A. Another player. Mr. Williams was
 18 at that point in time, my supervisor. They had
 19 moved my -- me over to him to answer as
 20 management to.

21 Q. Okay.

22 A. From Dick Hart to him.

23 Q. I see. What was Mr. Williams'
 24 title?

25 A. I couldn't tell you. I don't

16 (Pages 58 to 61)

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1 remember exactly what his title was.
 2 Q. No problem. What's his first
 3 name?
 4 A. Hill.
 5 Q. Hill?
 6 A. Hill Williams, yes. Dr. Hill
 7 Williams, sir.
 8 Q. And then who is B. J. Dahm?
 9 A. He worked for Hill Williams. And
 10 he was like my immediate supervisor.
 11 Q. What was his name?
 12 A. I can't exactly remember totally.
 13 I'm thinking it was Don, but I'm not sure.
 14 Q. Is Mr. Williams still alive?
 15 A. I hope all these people are, but I
 16 couldn't tell you.
 17 Q. Same with Mr. Dahm?
 18 A. Yeah, because they were all up in
 19 their forties and fifties back when I was like
 20 twenty-six and twenty-seven.
 21 Q. I got you.
 22 (Thereupon, Plaintiffs' Exhibit
 23 Number 7, a handwritten document Bates labeled
 24 MONS01827, was marked for purposes of
 25 identification.)

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1 Q. Plaintiffs' Exhibit 7 is a
 2 one-page document with MONS1827. And it's a
 3 handwritten document. And the title is EPA
 4 approved in other sites it looks like.
 5 Mr. Beal, have you seen this
 6 document before?
 7 A. No, sir.
 8 Q. If you look -- go back to Exhibit
 9 6, the one just previous to this one. The memo
 10 starts off saying attached is the method if
 11 disposal that MRC is currently using and a list
 12 of sites that we currently could and do use.
 13 So my question to you is, does
 14 Exhibit 7 go with Exhibit 6 or is it two different
 15 things?
 16 A. I have --
 17 MS. WRIGHT: Objection. I need to
 18 object if you're asking him to speculate. He
 19 doesn't recall seeing Exhibit 7.
 20 Q. Do you remember seeing Exhibit 6
 21 with Exhibit 7?
 22 A. No.
 23 Q. Whose writing is Exhibit 7?
 24 A. It's not mine.
 25 Q. But do you know whose it is?

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1 A. No, sir, I wouldn't. But they've
 2 got a lot nicer writing than I do.
 3 Q. Okay. If you go back to Exhibit
 4 6, it says attached is the method of disposal
 5 MRC is currently using and a list of sites we
 6 currently continue to use.
 7 Have you seen today the attachment
 8 that Exhibit 7 refers to?
 9 A. No.
 10 Q. When was the last time you saw it?
 11 A. Probably when I developed -- or
 12 when I wrote the memo.
 13 Q. You don't remember seeing --
 14 A. I attached it.
 15 Q. You don't remember seeing that
 16 attachment since 1979?
 17 A. No, sir.
 18 (Thereupon, Plaintiffs' Exhibit
 19 Number 8, an inter-office correspondence, from
 20 R. J. Janowiecki - EASC - Dayton, Lab - 1250,
 21 dated 7-22-1980, Bates labeled MONS01828, was
 22 marked for purposes of identification.)
 23 Q. Plaintiffs' Exhibit 8 is a
 24 one-page document numbered MONS1828. It's a
 25 memo from R. J. Janowiecki to M. F. Weishaar.

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1 MS. WRIGHT: David, I think it's
 2 1829.
 3 MR. ROMINE: Oh, you know what, I
 4 gave you the wrong document then.
 5 MS. WRIGHT: That says 29.
 6 MR. HARBECK: Does it have a date?
 7 MR. ROMINE: Yeah. I'm getting my
 8 exhibits mixed up here. Could you guys share that
 9 one? I'm getting my exhibits messed up. Yes.
 10 The date on this exhibit is July 22, 1980, number
 11 8.
 12 Q. My question to you is, have you
 13 seen this before?
 14 A. Best of my knowledge and belief,
 15 no, I haven't.
 16 Q. Okay. Who is R. A. Rabbitt?
 17 A. I had a lot of supervisors.
 18 Q. But he was a supervisor of yours?
 19 A. It was a she. Kathy Rabbitt.
 20 And, yes, she was my supervisor for a very
 21 short period of time.
 22 Q. And was that at The Mound or at
 23 1515 Nicholas Road?
 24 A. 1515 Nicholas Road.
 25 Q. Do you remember what her job title

17 (Pages 62 to 65)

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1 was?
 2 A. She's the industrial hygienist.
 3 Q. Did her job include responsibility
 4 for the disposal of waste?
 5 A. Since she oversaw me, I would say
 6 yes, but she didn't really have that much to do
 7 with it.
 8 Q. Who is D. J. Glasgow?
 9 A. I sort of recollect the name, but
 10 I can't put a face or what he did or anything.
 11 Q. No problem.
 12 A. But he was at the site. He was at
 13 1515 Nicholas Road.
 14 Q. Okay. How about Dick Janowiecki
 15 if I'm pronouncing that correctly?
 16 A. Janowiecki is how we always
 17 pronounced it. You could be right, too.
 18 Dick -- or no, I don't think he went by Dick.
 19 Well, he signed it by Dick. I always referred
 20 to him -- I'm sorry -- I referred to most of
 21 these people as Dr. So and So or Mr. So and So
 22 or Mrs. So and So. That's just sort of how I
 23 was brought up.
 24 So Mr. Janowiecki, he was like a
 25 manager over in environmental contracts and things

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1 like that. His exact title, I don't know. He
 2 worked very close with Don Zanders.
 3 Q. Was he in purchasing?
 4 A. No. I don't believe so. He might
 5 have had some oversight over him.
 6 Q. How about Mr. Weishaar?
 7 A. No, I have no idea, other than
 8 he's Monsanto headquarters.
 9 Q. In St. Louis?
 10 A. Yes, in St. Louis.
 11 (Thereupon, Plaintiffs' Exhibit
 12 Number 9, an inter-office correspondence from
 13 Safety and Loss Prevention, dated 10-24-1979,
 14 Bates labeled MONS01829, was marked for purposes
 15 of identification.)
 16 Q. Plaintiffs' Exhibit 9 is a
 17 one-page document with the stamp MONS1829, and
 18 it's a memo from D. A. Edling to R. K.
 19 Flitcraft dated October 24, 1979.
 20 And my question to you is, Mr. Beal,
 21 have you seen this before?
 22 A. No, sir.
 23 MR. HARBECK: Did you say 1979?
 24 MR. ROMINE: Yep.
 25 Q. Who is R. K. Blauvelt?

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1 A. Dick Blauvelt. Dick Blauvelt
 2 was -- he did about the same things for The
 3 Mound that I did for the Dayton lab. We'd go
 4 do site inspections, ensure everybody had their
 5 paperwork together right, things like that, and
 6 then he'd dispose of certain items that we
 7 could dispose of through those landfills or
 8 through the incineration or whatever.
 9 Q. Is Mr. Blauvelt still alive?
 10 A. I hope so. He was a heck of a
 11 nice guy.
 12 Q. Who is J. R. McClain?
 13 A. Don't remember.
 14 Q. Who is M. L. Mullins?
 15 A. Don't remember.
 16 Q. If you look at the subject, it
 17 says waste management monthly report.
 18 A. Correct. Okay.
 19 Q. Was there such a thing as a waste
 20 management monthly report?
 21 A. There could be.
 22 Q. But do you remember seeing waste
 23 management monthly reports when you worked for
 24 Monsanto?
 25 A. Well, this has to do with The

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1 Mound lab. This has nothing to do with the
 2 1515 Nicholas Road Dayton lab.
 3 Q. Okay.
 4 A. All these folks, Mr. Edling,
 5 Mr. Blauvelt, I worked for them down at The
 6 Mound, but I worked for them in safety and not
 7 in waste disposal at all for them. And like I
 8 said, Mr. Flitcraft, I believe he was the
 9 president of Monsanto Research Corporation.
 10 And Monsanto Research Corporation
 11 consisted of the Dayton lab and The Mound lab.
 12 And I -- I can't say for sure, but I think there
 13 was a division in St. Louis that we were all three
 14 under, under Dick Flitcraft. Okay?
 15 But reading this -- I've never seen
 16 it before. In reading this, this is strictly
 17 nothing but The Mound facility. And I would
 18 imagine Mr. Edling did this on a monthly basis to
 19 Mr. Flitcraft. I have never seen it until today.
 20 It just looks like a monthly report that he would
 21 have developed.
 22 Q. Well, do you remember seeing
 23 documents called waste management monthly
 24 reports?
 25 A. No, sir.

18 (Pages 66 to 69)

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1 Q. And how about Mr. Edling, who is
2 he?
3 A. Again, he was one of my
4 supervisors.
5 Q. And what was his first name?
6 A. Don.
7 (Thereupon, Plaintiffs' Exhibit
8 Number 10, an inter-office correspondence from
9 Corporate Office, Dayton, dated 10-30-1979, Bates
10 labeled MONS01830, was marked for purposes of
11 identification.)
12 Q. Plaintiffs' Exhibit 10 is a
13 one-page document with the Bates number
14 MONS1830. It is a one-page memo from Richard
15 K. Flitcraft to Mr. H. L. Williams and Mr.
16 R. J. McClain dated October 30th, 1979.
17 And my question to you is, Mr. Beal,
18 have you seen this document before?
19 A. No, I have not.
20 Q. I think I asked you about
21 Mr. Flitcraft and Mr. McClain. Who was
22 Mr. Williams?
23 A. Hill Williams.
24 Q. Oh, I asked you about him, too.
25 A. You asked me about him, yeah.

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1 Q. Do you see just above the
2 signature it says 12/3 and I think it's Mound,
3 I'm not sure, it may be Mound request received,
4 dash, location, question mark?
5 A. Yes, I see that.
6 Q. Do you recognize that handwriting?
7 A. No, sir, I do not.
8 Q. Do you see the first paragraph --
9 and I'm not going to read the whole thing --
10 but do you see the first paragraph where it
11 appears that Mr. Flitcraft is asking for status
12 report or reports from Mr. Williams and
13 Mr. McClain?
14 A. Yes.
15 Q. Do you believe that during your
16 time at Monsanto, you saw the status report
17 that Mr. Flitcraft is asking for in this memo?
18 A. I don't have any recollection of
19 that.
20 Q. When you were transferred from the
21 Dayton lab to The Mound lab, who took over your
22 responsibilities at the Dayton lab?
23 A. Some of them were given to Julie
24 Monjar, and I imagine some of the others would
25 have been given to either Kathy Rabbitt or

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1 Mr. Long probably might have taken over since
2 we were -- pretty well had things documented by
3 then.
4 Q. The first name you mentioned was
5 Julie Monjar?
6 A. Right.
7 Q. How do you spell her last name?
8 A. Boy, that's good. I'm thinking
9 it's just almost like M O N J A R. Now, she
10 only took over the first aid and safety part of
11 it. She did not take over the others because
12 she had no idea about the other stuff.
13 Q. When you say the other stuff, that
14 would include the chemical --
15 A. The waste disposal.
16 Q. And who took over that as --
17 A. I would say Kathy did.
18 Q. Kathy Rabbitt?
19 A. Yeah.
20 Q. Is she still alive?
21 A. She's about the same age. She
22 ought to be. I hope so.
23 Q. Was she a Monsanto employee when
24 you left in, let's say, 2000?
25 A. Yes. Uh-huh.

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1 Q. How about 2004?
2 A. I couldn't tell you. I don't
3 know.
4 Q. Do you know if she was continued
5 on some similar government contract after --
6 after the year 2000?
7 A. Well, she was working at 1515
8 Nicholas Road. Gosh. I can't remember when
9 they sold that site because they sold it to
10 Quality Chemical.
11 Q. I see. So it was a different job
12 situation from yours?
13 A. Yes.
14 (Thereupon, Plaintiffs' Exhibit
15 Number 11, an inter-office correspondence from
16 S.A. Heininger - G5EA, dated 7-9-1979, Bates
17 labeled MONS01831, was marked for purposes of
18 identification.)
19 Q. So Plaintiffs' Exhibit 11 is a
20 five-page document. The first page is a memo
21 from S. A. Heininger to four different
22 recipients dated July 9, 1979. And it's an
23 enclosure memo for a hazardous waste management
24 policy.
25 So my first question, this

19 (Pages 70 to 73)

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1 document was given to us by Monsanto or
2 Pharmacia in the order in which I've given it
3 to you. But my question to you is, are these
4 all together? In other words, does it look
5 like the two cover memos refer to the hazardous
6 waste management policy that's attached and
7 this policy is actually what's meant to be
8 attached to these two memos?

9 MR. GERKEN: Do you have a Bates
10 number for Plaintiffs' Exhibit 11?

11 MR. ROMINE: MONS1831 through 1835.

12 MS. WRIGHT: I'm going to object to
13 the question since we haven't established a
14 foundation as to whether or not he's even seen
15 these pages of this exhibit.

16 Q. Okay. We'll start with this one.
17 Have you seen the very first page, 1831?

18 A. No, sir.

19 Q. Have you seen the second page,
20 1832?

21 A. No, sir.

22 Q. Have you seen the document that
23 goes from 1833 to 1835, Monsanto hazardous
24 waste management policy?

25 A. No, sir.

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1 Q. Who is S. A. Heininger?

2 A. I do not know, sir.

3 Q. Based on the code following his
4 name, does it appear to you that it would be
5 someone that worked in Monsanto corporate at
6 St. Louis?

7 A. Yes, sir.

8 Q. And we talked about Mr. Flitcraft.
9 Do you know who Mr. Orrick is?

10 A. No, sir.

11 Q. Or I guess I should say do you
12 know who D. J. Orrick is?

13 A. No, sir.

14 Q. Do you know who C. W. Roos is?

15 A. No.

16 Q. Do you know who B. S. Wildi is?

17 A. No, sir.

18 Q. Do you see the handwritten notes
19 sort of on the top right-hand part of the page?

20 A. Yes, sir.

21 Q. Do you recognize that writing?

22 A. No, sir.

23 Q. And down towards the bottom right,
24 do you see where it says received, Monsanto
25 Dayton patent department?

1 A. Yes, sir.

2 Q. Where was the Monsanto Dayton
3 patent department located?

4 A. It was located right off the front
5 lobby at 1515 Nicholas Road.

6 Q. If you go to the next page, 1832,
7 who is M. C. Throdahl?

8 A. I recognize the name, but I can't
9 put a face or a place with it.

10 Q. Did you -- during your career with
11 Monsanto, did part of your job include putting
12 together a hazardous waste management policy
13 company wide?

14 A. A written policy or a policy
15 that --

16 Q. Let's start with this. My basic
17 question is, did you have input into what this
18 is, this hazardous waste management policy?

19 A. Negative. No, I did not.

20 Q. How about more generally? It
21 sounds like from your question there may have
22 been some unwritten policies or some practices
23 that you helped put together.

24 A. Monsanto was a very good corporate
25 company. They -- they were concerned about the

1 environment like everybody else. During the
2 time that I was doing this work for them, there
3 was places like Love Canal and a few other --
4 Hooker Chemical Company and a few others that
5 were doing some very incorrect ways of disposal
6 stuff.

7 And Sixty Minutes was hammering the
8 heck out of anybody and everybody who was doing
9 that. And it was somewhat tongue-in-cheek-type
10 conversation, that we didn't want to see Sixty
11 Minutes in our parking lot. And we had all
12 discussed about what we needed to do. The SARA
13 law was coming in. We wanted to make sure that we
14 did everything above board. We built a new
15 chemical supply area that met NFPA standards and
16 also had diking around it so nothing would get
17 outside of that building.

18 We pretty well had marching orders
19 that are reflected here in what they have written.
20 And some of it in some ways was put from pen to
21 paper but nothing informal. But I mean, it was
22 the philosophy that we were not going to do
23 anything wrong. And that's why they had me go
24 with Ron Long and Dick Hart went on some of them,
25 just most of my supervisors at one point in time

20 (Pages 74 to 77)

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1 went on different ones together. We went on those
 2 site visits, we made sure they had all their EPA
 3 environmental certificates, they were all up to
 4 speed. We discussed with St. Louis -- or not St.
 5 Louis -- but Columbus, the Ohio EPA, Montgomery
 6 County, RAPCA was -- was the people we would talk
 7 to down here, and we would make sure that
 8 everybody was approved before we would even think
 9 about sending in -- getting in -- in procurement
 10 contract with them to do anything.

11 We tried our hardest to follow all
 12 the rules and regulations, but you have to also
 13 remember at that point in time, everything was a
 14 little bit in flux because the way things were
 15 going down. The rules have changed. You never
 16 today would do what we did back then. Never. You
 17 wouldn't have buried anything in a landfill like
 18 you've seen some of this documentation. I mean,
 19 over the years, I've seen such a difference. And
 20 Blauvelt and Edling down at The Mound, yeah, I
 21 worked for them under a different -- doing a
 22 different job, but I'd still at lunchtime listen
 23 to them talk about the waste disposal stream from
 24 The Mound lab, which is a total another subject,
 25 but that took a totally different perspective than

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1 what we had here.

2 Monsanto has always been a very good
 3 corporate citizen and tried to do the best they
 4 could under the rules and regulations that were
 5 given to them, and we did not do anything that
 6 we -- that would cause any more problems than what
 7 there was out there in this world. We were not
 8 told to do anything underhanded. As a matter of
 9 fact, we were discouraged. They would have fired
 10 me in a heartbeat if I had done anything wrong.

11 Q. So there was a corporate culture
 12 of doing things the right way?

13 A. It has been ever since I was at
 14 Monsanto.

15 Q. Was there any waste from The Mound
 16 that was sent to the South Dayton Dump?

17 A. You know, I can't tell you that.
 18 I don't have any idea. I was not privy to any
 19 of that.

20 Q. Who would be the best person that
 21 would know that?

22 A. Edling and Dick Blauvelt.

23 (Thereupon, Plaintiffs' Exhibit
 24 Number 12, a handwritten document, dated
 25 10-30-1979, Bates labeled MONS01836, was marked

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1 for purposes of identification.)

2 MR. ROMINE: For those of you on the
 3 telephone, Plaintiffs' Exhibit 12 is a one-page
 4 document. It's MONS1836. And to me it looks like
 5 a telephone message, something that a secretary
 6 might have written down to give someone a
 7 telephone message. But that's just my impression.

8 MR. GERKEN: Any date?

9 MR. ROMINE: October 30, 1979.

10 Q. Mr. Beal, have you seen Exhibit 12
 11 before?

12 A. No, sir.

13 Q. Who is Mor Mullins?

14 A. I can't tell you for sure, but I
 15 think he worked over at the nuclear part of
 16 the -- we had a group of people that worked and
 17 made start-up sources for nuclear reactors for
 18 the military for civilian use there, and I
 19 believe he was one of the managers over there
 20 on that side of the fence.

21 Q. At The Mound?

22 A. No, at 1515 Nicholas Road.

23 Q. Okay. But a Monsanto employee?

24 A. Yes, sir.

25 Q. Did the South Dayton Dump go

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1 through any approval process?

2 A. I cannot recollect what we
 3 required of them. The only part that I
 4 recollect is that I had discussed this with the
 5 RAPCA people here in Dayton and with the State
 6 of Ohio's EPA, Dale Farmer, he was like over --
 7 or their -- their oversight person out of
 8 Columbus for the environmental protection. I'm
 9 trying to think of the other fellow's name.

10 Just Dale Farmer was -- I'd always -- we would
 11 always talk and we'd discuss and find out if
 12 anybody was new around that was doing a better
 13 job and was approved by the State and things
 14 like that. So we -- we kept -- also, I would
 15 see him through the fire department out on
 16 HAZMAT sites and stuff that I'd get involved in
 17 on my volunteer fire department operation.

18 Q. Mr. Farmer was an Ohio EPA
 19 employee?

20 A. Uh-huh.

21 Q. Yes?

22 A. Yes, sir.

23 Q. And RAPCA, is that an air
 24 authority?

25 A. Here in Dayton, yeah. Uh-huh.

21 (Pages 78 to 81)

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1 Q. Did Mr. Farmer -- specifically
2 regarding the South Dayton Dump now, did
3 Mr. Farmer ever say to you do something in
4 particular or not do something in particular
5 when you were at South Dayton?

6 A. I can't remember our direct
7 conversations with him. But he was well aware
8 that we did that over there. As a matter of
9 fact, I think he was part -- I believe he was
10 part of the -- of the discussion when we talked
11 to the State and the County about doing it
12 there because I do remember the comment being
13 made that this was a one-time only and we had
14 to figure out some other way to do this from
15 now on out. We were not going to be permitted
16 to do it like this anymore. I do remember that
17 conversation, and I think that conversation
18 came up with a couple of other officials when
19 they permitted us to do that.

20 Q. Do you remember the person from
21 RAPCA that you dealt with?

22 A. Not off the top of my head, no.

23 Q. And can you remember anybody from
24 RAPCA telling you to either make sure you do
25 something or don't do anything with respect to

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1 the South Dayton Dump?

2 A. No, I can't. We had to give them
3 a list of what we were -- some sort of a
4 rounded list of what we were going to dispose
5 of. I mean, that was just textbook, how you
6 have to do everything.

7 Q. And have you seen that list here?

8 A. No. And I do not have a copy of
9 it or anything like that.

10 Q. Right. And did you -- did you
11 give that to Montgomery County? Or let me ask
12 you this: Who did you give that to?

13 A. Copies of all that -- all that was
14 part of the permit process. So it should be in
15 the permits.

16 Q. I understand. Should be?

17 A. Should be in the permits.

18 Q. How about if you go back to
19 Exhibit 1, the permit, there is a name at the
20 bottom, Robert Vogle, M.D. Did you deal with
21 Mr. Vogle?

22 A. He was a coroner.

23 Q. So your answer is --

24 A. I dealt with him on other
25 situations but not specifically disposal.

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1 Q. Let's talk specifically about the
2 South Dayton Dump. Who did you deal with at
3 Montgomery County with regard to the South
4 Dayton Dump?

5 A. Dr. Larry Frobe was part of HAZMAT
6 and part of RAPCA, I believe at that point in
7 time. And he and I had discussions about that.
8 I can't remember who exactly --

9 Q. Dr. Larry Frobe?

10 A. Yeah.

11 Q. How do you spell that?

12 A. F R O B E -- I E. I'd have to --
13 I don't know. I think that's how it is. I'd
14 have to --

15 Q. Do you remember Mr. Frobe -- or
16 Dr. Frobe or someone else from Montgomery
17 County saying to you when you go to South
18 Dayton Dump, make sure you do this or make sure
19 you don't do that kind of thing?

20 A. I can't remember who I really
21 directly talked to down there. I'm sorry, I
22 just -- years have got past me. I'm sorry.

23 Q. No problem. But aside from the
24 individual, do you remember someone, anyone
25 from Montgomery County giving you directions on

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1 how to do the burn?

2 A. We came up with how to do the
3 burn.

4 Q. So they didn't tell you what to do
5 or how to do it?

6 A. They approved of that way to do
7 that.

8 Q. I see.

9 A. In other words, we weren't allowed
10 just to have a bonfire and throw the stuff in.
11 The air curtain destructor had a lot to do with
12 this. Like I said, all the EPA requirements
13 and everything, if you think about it, and OSHA
14 safety requirements and everything else was
15 really coming -- you know, just really coming
16 down the road at this period of time. So
17 everything was in flux and everything -- you
18 know, we had a lot of rules and regulations we
19 had to shift through and what you could do and
20 where you couldn't do it and what was good for
21 the environment and what wasn't.

22 And I'm sure that those folks made
23 their decisions upon what they -- to the best of
24 their knowledge and belief at that point in time
25 and then that's how we made our decisions. I know

22 (Pages 82 to 85)

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1 that it was not an easy thing to get that permit
 2 to do that, and it was a -- told to me -- one-time
 3 permit, and we came up with the air curtain
 4 destructor to help the combustion and keep
 5 everything -- it kept running it through, kept
 6 circulating the affluent from the burn back in
 7 there and that would keep -- it's not an approved
 8 method now, but that would keep most of the --
 9 most of the products of combustion there and burn
 10 them at a higher temperature which will get rid of
 11 the waste in a more efficient and a better way.

12 Q. Okay. Was this process written
 13 down and submitted to Montgomery County as part
 14 of the permitting -- getting the permit?

15 A. I can't tell you for sure, but I'm
 16 pretty sure I wrote it down.

17 Q. You wrote it down somewhere and it
 18 may have been submitted to the County?

19 A. Yeah, I probably -- I'm like --
 20 I'm just like you folks, I use a legal pad and
 21 I did a lot of work with that.

22 Q. Did you keep a copy of this permit
 23 after you left Monsanto's employ?

24 A. Yes, sir.

25 Q. Did you keep anything else related

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1 to South Dayton Dump?

2 A. I probably have a few things.

3 Q. Do you know what they are?

4 A. Off the top of my head, I went
 5 through my folder last night, and I can't tell
 6 you exactly what all I kept and what I didn't,
 7 but I did keep a pretty good record of what I
 8 did somewhat.

9 Q. Have you given those documents to
 10 Ms. Wright?

11 A. That was the investigator?

12 MS. WRIGHT: No. To me.

13 THE WITNESS: My hearing is bad. I
 14 thought you said Mr. Wright.

15 MS. WRIGHT: That was my ex-husband.

16 THE WITNESS: I'm not feeding him
 17 anything anyway.

18 MS. WRIGHT: Good.

19 THE WITNESS: But anyway, I've given
 20 her what I thought -- all the documents that I
 21 thought pertained to this situation here.

22 MS. WRIGHT: And those other
 23 documents you received yesterday.

24 MR. ROMINE: Okay. Got you. Thanks.

25 I'm pretty close to done. Let me just take a five

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1 or ten-minute break. I'll see if I missed
 2 anything.

3 (Thereupon, a break was had.)

4 Q. Mr. Beal, do you remember any of
 5 the names of the people from Creager?

6 A. No, sir. That was a one-time shot
 7 with them. And the company, I believe, is out
 8 of business, too. And so I -- it was a
 9 family-owned company here in Dayton.

10 Q. And you think -- you think it was
 11 K R I E G E R?

12 A. No. C.

13 Q. So could you spell it for me?

14 A. No.

15 Q. But it's --

16 A. C R E A --

17 Q. C R E A maybe?

18 A. Yeah. Earl D. Creager. All his
 19 equipment was either -- I think they're orange,
 20 sort of like a safety orange.

21 Q. And when you left Monsanto in
 22 approximately 2000, that was Monsanto Research
 23 Corporation?

24 A. Yes.

25 Q. Other than what we've talked about

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1 today, were there other occasions you're aware
 2 of when Monsanto Research Corporation disposed
 3 of any waste at the South Dayton Dump?

4 A. None to my knowledge and belief.

5 Q. Other than what we've talked about
 6 today, were there any occasions where any other
 7 employers of yours disposed of waste at the
 8 South Dayton Dump?

9 A. No, sir.

10 Q. When you were working at 1515
 11 Nicholas Road, was there a waste hauler that
 12 came and took away the general trash, not the
 13 chemical waste? The cafeteria waste, the paper
 14 waste, things like that.

15 A. Yes, sir.

16 Q. Do you know who that was?

17 A. I can't remember. It'd be nothing
 18 but speculation on my part. There was only one
 19 or two in Dayton in operation at that point in
 20 time anyway.

21 Q. Did you have any responsibilities
 22 for that?

23 A. No. That was strictly a
 24 contractual thing that Mr. Long would have had
 25 dealings with.

23 (Pages 86 to 89)

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1 Q. Same question regarding The Mound.
2 Was there a contractor that came and took away
3 the dumpster, the general trash at The Mound?

4 A. Yes, there was.

5 Q. And who was that?

6 A. I can't tell you. I don't
7 remember.

8 Q. That's fine. Did you have any
9 responsibility for that?

10 A. I had none. No responsibility.
11 Down at The Mound, I had no waste
12 responsibilities.

13 Q. And going back to 1515 Nicholas
14 Road, your responsibility for the waste
15 consisted of the chemical lab waste?

16 A. Correct.

17 Q. Anything else?

18 A. Other than I would go on the site
19 visits with Mr. Long. And they'd be, you know,
20 a two-sided type thing. One was Mr. Long's
21 looking at them for the pilot plant waste, the
22 large quantities of the methanol and acetone
23 stuff out of there, and I would be looking at
24 it from the small laboratory, couple ounces
25 here and there or couple -- maybe at the most

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1 would be a litter, but that would be the most
2 that was in these -- in any of these bottles.

3 Q. In your experience at 1515
4 Nicholas Road, specifically with regard to
5 waste disposal, when you say typically the
6 pilot plant waste and the chemical lab waste
7 would be disposed of in the same batch together
8 or not typically, they would be disposed of at
9 two separate locations, two separate batches?

10 A. Correct. They would be two
11 separate batches and they would be in two
12 different -- well, I don't want to say in
13 different locations because to meet with the
14 Environmental Protection Agency and everything,
15 we had to put a pad in. We built a pad that
16 had a spill lip on it and also a holding area
17 that ran off the pad so if anything happened,
18 it would go -- it would hold -- I can't
19 remember the ratio -- it had to hold
20 seventy-five percent or some -- some amount of
21 whatever was stored on the pad so it never got
22 to the ground, never got in the runoff water or
23 anything else.

24 So I was keeping my stuff that I had
25 packaged up. And the laboratory stuff, I was

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1 keeping it out on that same pad with Dick
2 Juterbach's waste stream from the pilot plant. So
3 we kept it segregated -- or segregated on the pad.

4 Q. This pad now would be at the 1515
5 Nicholas Road --

6 A. Yes, sir.

7 Q. -- facility?

8 MR. ROMINE: I think that's all I
9 have for now. I pass the witness.

10 DIRECT EXAMINATION

11 BY MS. WRIGHT:

12 Q. I just have a few follow-up
13 questions. It went back to when we started
14 earlier this morning and you were describing
15 the one-time event where you disposed of
16 chemical lab waste at South Dayton Dump.

17 You described two pickup truck trips
18 where the truck was not full. Do you have a
19 recollection of how many fifty-five gallon drums
20 would have been in each of those two trips?

21 A. No, but the truck was not full. I
22 think if you visualize it, you could maybe put
23 eight drums on a standard size pickup truck.
24 And I don't know, I think I only had maybe four
25 on at each time at the most and a lot of

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1 vermiculite. You got to remember these waste
2 samples were only ccs of material and some of
3 them might be four, six or eight-ounce bottles
4 and it takes a lot of those bottles to make up
5 a gallon job of material. So volume-wise in
6 one of those fifty-five gallon drums, I bet you
7 would be lucky to have five gallons.

8 MS. WRIGHT: Okay. That's the only
9 question I have. Thank you.

10 MS. RHINEHART: I have nothing.

11 MR. ROMINE: Does anyone on the phone
12 have questions?

13 MR. HARBECK: This is Bill Harbeck.
14 I have a couple questions.

15 CROSS-EXAMINATION

16 BY MR. HARBECK:

17 Q. If you could, pull out Exhibit 4,
18 which is the May 9, 1977 Monsanto Research
19 Corporation memo, the subject, handling the
20 Dayton laboratory waste chemicals.

21 A. Okay.

22 Q. Do you have that handy?

23 A. Yes, sir, I got it in front of me
24 right now.

25 Q. Okay. And that's a memo that was

24 (Pages 90 to 93)

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1 sent to Mr. Hart and you were copied on that
 2 memo; is that right?
 3 A. Yes, sir.
 4 Q. Okay. If you go to the second
 5 page of that memo --
 6 A. Okay.
 7 Q. -- and under the category current
 8 practice --
 9 A. Okay.
 10 Q. -- I want to point out a couple
 11 things on that page and then I'm going to ask
 12 you a question.
 13 A. Okay.
 14 Q. Under current practice in that
 15 second paragraph there, it states that solid
 16 wastes which do not contain heavy metals and
 17 need EPA requirements for landfill disposal are
 18 sent to IWD.
 19 A. Okay.
 20 Q. Do you see that sentence?
 21 A. Yes, sir.
 22 Q. And then if you go down to the
 23 paragraph below that's labeled future practice.
 24 A. Okay.
 25 Q. And it says in the first sentence

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1 there, in the future, we expect to be using the
 2 same disposal means; however, we will be
 3 visiting all sites to which our materials are
 4 transported for personal inspection of their
 5 ability to handle these chemicals.
 6 A. Okay.
 7 Q. Do you see that?
 8 A. Yes, sir.
 9 Q. And then a little bit further down
 10 in that same paragraph, it says a previous
 11 visit has already been made to the IWD
 12 Springfield landfill. Do you see that?
 13 A. Yes, sir.
 14 Q. So was it your understanding that
 15 during that time, that the waste described
 16 above that IWD was picking up was being
 17 disposed of at the IWD Springfield landfill?
 18 A. Yes, sir. As a matter of fact --
 19 Q. And to your knowledge --
 20 A. Go ahead.
 21 Q. To your knowledge -- I'm sorry.
 22 A. Go ahead.
 23 Q. To your knowledge, Mr. Beal, were
 24 any of those wastes that IWD was picking up
 25 ever taken to the South Dayton Dump based upon

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1 your knowledge?
 2 A. I have no knowledge if it was.
 3 MR. HARBECK: Okay. Thanks very
 4 much. That's all I have.
 5 MR. ROMINE: I do have a follow-up.
 6 RE-CROSS-EXAMINATION
 7 BY MR. ROMINE:
 8 Q. I do have a follow-up, which is a
 9 couple minutes ago I had asked you about
 10 whether you had remembered who picked up the
 11 waste -- the general waste from 1515 Nicholas
 12 Road.
 13 A. Correct.
 14 Q. And I believe your answer was you
 15 didn't remember.
 16 A. That's correct.
 17 Q. Okay. If you look at what
 18 Mr. Harbeck just pointed out to you, does that
 19 refresh your recollection as to who picked up
 20 the waste from 1515 Nicholas Road?
 21 A. Noting from this memo, yes, it
 22 does. And I do remember going to the IWD
 23 Springfield site with Ron Long.
 24 Q. So who picked up the general waste
 25 from 1515 Nicholas Road?

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1 A. That was a one-time special shot,
 2 as far as I knew.
 3 Q. The Springfield Road?
 4 A. The one that we took to
 5 Springfield, yes. It wasn't -- if they took
 6 the general trash up there, I had no knowledge
 7 of where it was going at that time because a
 8 lot of our general trash, I would imagine, was
 9 being taken over to the incinerator because it
 10 was still in operational -- our north and south
 11 incinerators were both in operation at that
 12 point in time. They wouldn't go to a
 13 specific --
 14 Q. I got you. But, again, based on
 15 what you remember, who was the contractor that
 16 picked up the general waste from 1515 Nicholas
 17 Road?
 18 A. I don't remember the general
 19 contractor.
 20 Q. Okay. And so the Springfield
 21 Road -- I'm sorry -- the Springfield, Ohio
 22 notation in what we just talked about with
 23 Mr. Harbeck, that was a one-time deal?
 24 A. That was a one-time deal of
 25 hazardous material.

25 (Pages 94 to 97)

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1 MR. ROMINE: That's fine.
 2 MS. WRIGHT: Did you have anything,
 3 Bill?

4 MR. HARBECK: Yeah. Yeah.
 5 RECROSS-EXAMINATION

6 BY MR. HARBECK:

7 Q. Just to clarify then, other than
 8 that one-time deal, that IWD was not picking up
 9 what you would characterize as hazardous waste
 10 from Monsanto; is that correct?

11 A. I don't recollect any of it being
 12 picked up by them other than that one-time
 13 deal. I think they were trying to get in the
 14 business at that point in time. If -- if Ron
 15 Long did something with IWD as far as our
 16 general trash or any other hazardous materials,
 17 it was probably greater quantities than the
 18 laboratory quantities.

19 Q. Right. At this point, you don't
 20 know whether or not IWD had any kind of -- type
 21 of involvement like that; is that correct?

22 A. That's correct.

23 Q. Okay. So just so I'm certain
 24 about this, the hazardous waste -- and this is
 25 still -- the hazardous waste is the waste that

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1 Q. Okay. And you don't know who was
 2 just picking up Monsanto's general trash which
 3 might include office waste and other stuff that
 4 might have been put in its dumpster; is that
 5 right?

6 A. That is correct. It's been
 7 thirty-six, thirty-eight years ago, and I don't
 8 remember.

9 Q. Okay.

10 A. I probably saw the trucks, but I
 11 don't remember who it was.

12 Q. At this point, you have no
 13 knowledge -- whatever type of waste, you have
 14 no knowledge of IWD or any other of your
 15 Monsanto waste haulers ever taking any waste to
 16 the South Dayton Dump; is that correct?

17 MS. WRIGHT: Bill, I have to object
 18 to the form of the question, but he can answer it.

19 THE WITNESS: You know, only from the
 20 documentation that we got here. That is the only
 21 knowledge I would have. And that would be -- so
 22 that was --

23 Q. Okay. But you've already
 24 testified about your knowledge about that,
 25 correct?

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1 is described in this paragraph under current
 2 practices, solid waste not containing heavy
 3 metals and meeting requirements for landfill
 4 disposal, that falls, in your mind, in the
 5 category of hazardous waste, right?

6 A. Yes. And that -- but that can be
 7 a -- back then, that could be a very big span
 8 of anything and everything because water is
 9 considered hazardous if you drown in it.

10 So I mean, you know, back when all
 11 this stuff started and SARA started up and
 12 everything, I believe, his list went on and on and
 13 gasoline and a lot of commodities were considered
 14 hazardous wastes. And still are, some of them,
 15 too.

16 Q. Okay. I got that. I just want
 17 to, again, make sure that the type of waste
 18 being described in that current practices, your
 19 understanding was, was that was a one-time deal
 20 with IWD. Other than that one-time deal, IWD
 21 was not picking up any other type of hazardous
 22 waste from Monsanto during that time. Is that
 23 fair?

24 A. That's -- to my best knowledge and
 25 belief, that's a true story.

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1 A. Say it again, please.

2 Q. I don't want to make -- in other
 3 words, you've already given us your full
 4 knowledge about any waste from Monsanto having
 5 gone to the South Dayton Dump?

6 A. Correct.

7 MR. HARBECK: That's all. Thanks
 8 very much.

9 MS. WRIGHT: I want to ask one
 10 follow-up question to clarify this.

11 REDIRECT EXAMINATION
 12 BY MS. WRIGHT:

13 Q. Mr. Beal, just to clarify, the
 14 only firsthand knowledge you have of waste
 15 disposal, as you've testified here today, is
 16 for chemical lab waste only; is that correct?

17 A. That is correct.

18 MS. WRIGHT: That's all I've got.
 19 Thanks.

20 FURTHER RECROSS-EXAMINATION
 21 BY MR. ROMINE:

22 Q. I do have another question, which
 23 is aside from whether or not you were working
 24 with Monsanto, did you have any contact with
 25 management or ownership of the South Dayton

26 (Pages 98 to 101)

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1 Dump?

2 A. Other than probably coming in that
3 day, I probably talked to whoever. I do not
4 know their name and told them -- you know,
5 asked them where the site was that they -- we
6 were going to be at. And from then, no, I
7 really had no contact with them or -- or any
8 other connection from then on out. It was a
9 one-time deal. I knew that. So --

10 MR. ROMINE: Okay.

11 MS. WRIGHT: Anything more?

12 MR. ROMINE: Anyone else on the
13 telephone? I guess we're done. Thank you.

14 (Thereupon, the deposition was
15 concluded at 12:54 p.m.)
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1 I, THOMAS D. BEAL, SR., do hereby certify
2 that the foregoing is a true and accurate
3 transcription of my testimony.
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Dated _____

1 IN WITNESS WHEREOF, I have hereunto set
2 my hand and seal of office at Dayton, Ohio, on
3 this 25th day of April, 2014.
4
5

6 -----
MICHELLE A. ELAM
NOTARY PUBLIC, STATE OF OHIO
My commission expires 5-2-2015
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27 (Pages 102 to 105)

Mike Mobley Reporting(937) 222-2259

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1 STATE OF OHIO)

2 COUNTY OF MONTGOMERY) SS: CERTIFICATE

3 I, Michelle A. Elam, a Notary
4 Public within and for the State of Ohio, duly
5 commissioned and qualified,

6 DO HEREBY CERTIFY that the
7 above-named THOMAS D. BEAL, SR., was by me first
8 duly sworn to testify the truth, the whole truth
9 and nothing but the truth.

10 Said testimony was reduced to
11 writing by me stenographically in the presence
12 of the witness and thereafter reduced to
13 typewriting.

14 I FURTHER CERTIFY that I am not a
15 relative or Attorney of either party, in any
16 manner interested in the event of this action,
17 nor am I, or the court reporting firm with which
18 I am affiliated, under a contract as defined in
19 Civil Rule 28(D).

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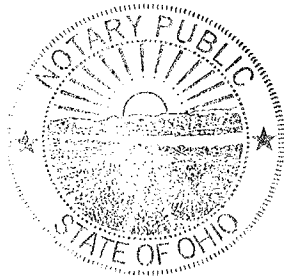
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1 IN WITNESS WHEREOF, I have hereunto set
2 my hand and seal of office at Dayton, Ohio, on
3 this 25th day of April, 2014.



Michelle A. Elam

MICHELLE A. ELAM
NOTARY PUBLIC, STATE OF OHIO
My commission expires 5-2-2015

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MONTGOMERY COUNTY OHIO GENERAL HEALTH DISTRICT

PERMIT NO
503

PERMIT

FOR OPEN BURNING

EXPIRES

Location: 1975 Springboro
South Dayton Dumps & land Fill

NAME
MONSANTO RESEARCH CORP.

ADDRESS

STA. B P.O. BOX 8

DAYTON, OHIO 45407

This permit has been issued in accordance with the requirements of the Montgomery County Health Department regulations and is subject to revocation or suspension for cause and is not transferable without consent of the licensor.

FEE
\$5.00

Robert A. Lopez, M.D.

Health Commissioner
Montgomery County Health Department
Dayton, Ohio 45402

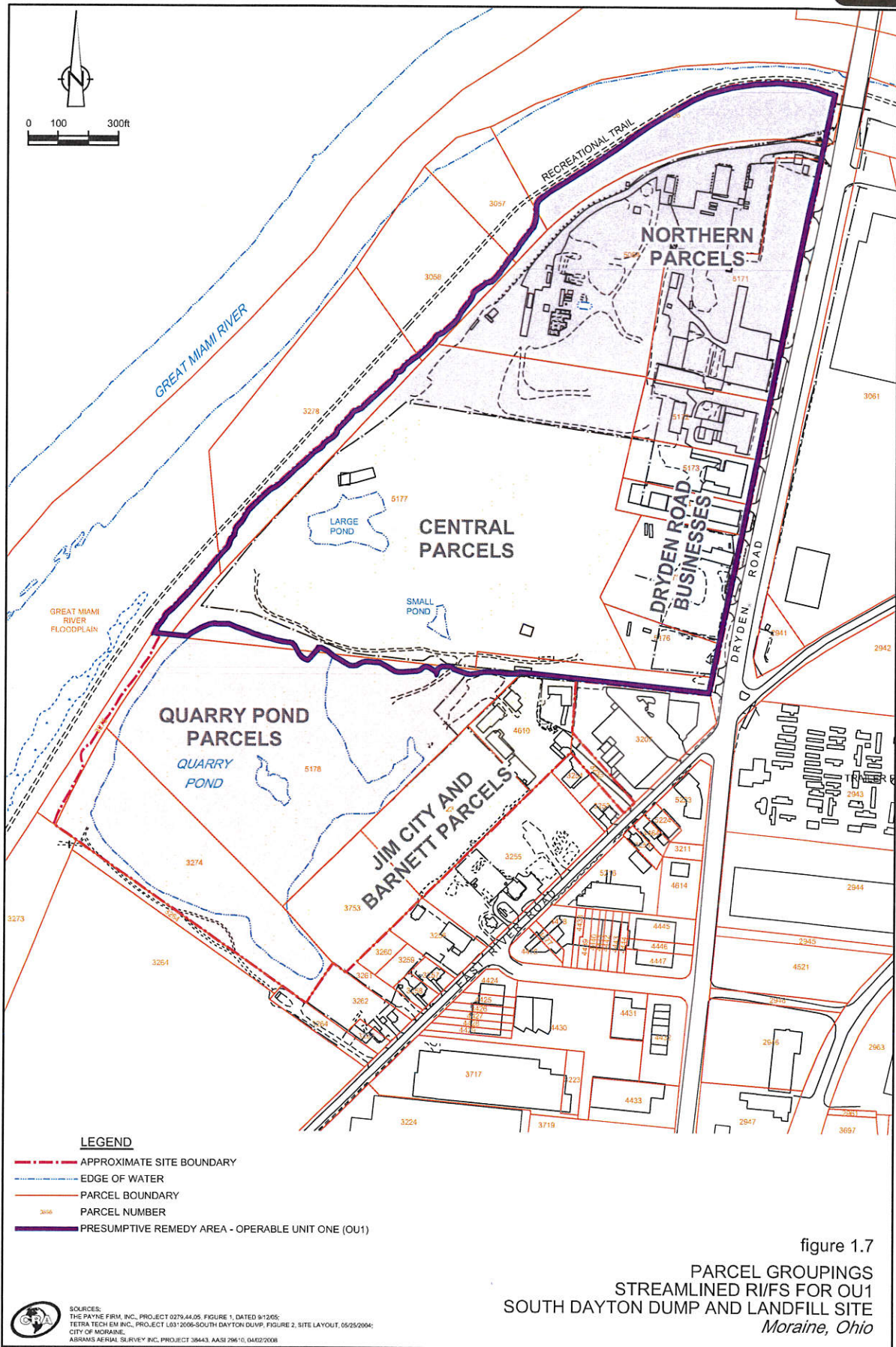
THIS PERMIT MUST BE DISPLAYED IN A CONSPICUOUS PLACE.

PLAINTIFF'S

EXHIBIT

4/11/74
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PENGAD 800-631-6989



CONFIDENTIAL

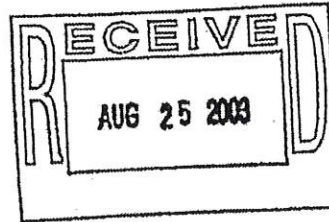
MONSANTO RESEARCH CORPORATION

Inter-Office Correspondence

From LOCATION : D. L. Zanders/Dayton Laboratory
DATE : March 1, 1983
SUBJECT : Dayton Laboratory Waste Disposal History
REFERENCE :

cc: W. B. Witmer
T. E. Ctvrtnicek
R. M. Scott - 02B
B. J. Gilhausen - G3WB

TO : G. L. Jesse
G3WG/St. Louis



In response to your request, the following is a history of open (current) and closed (no longer used by the Dayton Laboratory) disposal sites associated with the operation of the Dayton Laboratory. Both on-site and off-site disposals are listed, and off-site disposals are grouped by the method of disposal (reclamation, incineration, and landfill). To assemble the list, existing records and recollections of the older, and now retired MRC employees were used. The completeness of the list is uncertain. Radioactive and general, non-hazardous industrial waste disposal sites are not included.

I trust that the information provided will meet your needs. If you have further questions, please contact me.


D. L. Zanders

DLZ:ss



MONS01815

AN ACCOUNT OF OFF-SITE CHEMICAL WASTE LANDFILLS

Site	Method of Disposal/Treatment	Status	Waste Components	Quantity	Approximate Period of Activity
Unnamed landfill on Vance Road, Dayton, Ohio	Landfill	Closed	Dimethyl mercury in a stainless steel container	~4 lbs	Early 1950's
Edgewood Arsenal, Aberdeen Proving Ground, Maryland	Dumping/burial (also see the entry on this site in the listing on incineration)	Closed	Decontaminated hardware (e.g., a GC, a glove box, ducts) and products from government contracts on physical/chemical/colloid research of agents	Uncertain; guesstimated at ~100 lbs	1967-69
Toxic materials dump at Wright-Patterson Air Force Base, Dayton, Ohio	Dumping	Closed	Portions of decontaminated hardware listed under Edgewood Arsenal	Uncertain; guesstimated at ~100 lbs	1967-69
South Dayton Dump and Landfill, Dayton, Ohio	Landfill	Closed	Inorganics (e.g., Na_2CO_3 , alumina) in 100 lb sacks	<800 lbs	1976/77
Unnamed landfill in Seymour, Indiana	Landfill	Closed	Reacted acrylic mix polymer scrap	~20 tons	Early 1970's
Headlee Refuse, Inc., Delaware, Ohio	Landfill	Closed	Off-grade materials and solvents from acrylic resin production; some lab chemicals	~50 tons	Early 1970's thru 1974
Pristine, Inc., Reading, Ohio	Landfill at an undisclosed location in northern Kentucky arranged by Pristine against EMC instruction that this waste was to be incinerated	Closed	Large variety of lab organic chemicals packed in drums	<400 lbs	1977/1980
CECOS International (formerly MEMCO) Williamsburg, Ohio	Secure landfill	Open	Chemically contaminated scrap (82%), asbestos (4%), various lab chemicals in glass containers packaged in cans and drums (9%)	~15 tons	1977 - present

CONFIDENTIAL

AN ACCOUNT OF CHEMICAL WASTE INCINERATION

Site	Method of Disposal/Treatment	Status	Waste Components	Quantity	Approximate Period of Activity
Edgewood Arsenal, Aberdeen Proving Ground, Maryland	Burning (also see the listing on landfills)	Closed	Materials from Government contracts on physical/chemical/colloid research of agents; residual CS and solid lethal agents; agent-contaminated solvents (toluene, xylene, benzene, acetone)	~50 lbs of unused agents and ~8 tons of solvents	1967/69
Unnamed site in Terre Haute, Indiana	Incineration	Closed	Acrylic polymer wastes in butanol/kerosene mixture with 25%-30% polymer	~40 tons	Early 1970's
American Chemical Services, Griffith, Indiana	Incineration	Closed	Scrap methanol	Guestimated at several tens of tons	Early 1970's
City dump site in Moraine City, Ohio	Open burning; soil covered	Closed	Lab waste organic chemicals of large variety and reactive inorganic metals (Na, K, Li)	<800 lbs	~1976/77
Pristine, Inc., Reading, Ohio	Incineration	Closed	Waste solvents (1/3 aromatic, 2/3 olefinic, less than 0.1% mercaptans)	~100 tons	1977-1980
Dayton North County Incinerator, Dayton, Ohio	Incineration	Open	Wastes from laboratory bio-assays	~5 tons	1980 - present
Robert Ross & Sons, Grafton, Ohio	Incineration	Open	Waste solvents (1/3 aromatic, 2/3 olefinic; less than 0.1% mercaptans)	~200 tons	1980 - present

AN ACCOUNT OF ON-SITE BURIAL LOCATIONS

Location	Method of Disposal/Treatment	Status	Waste Components	Quantity	Approximate Period of Activity
Northwest corner of the property	Burial some 25 feet deep; soil covered	Closed	Probably polonium 210 (decayed now) and polonium 210 contaminated hardware	Unknown	1942/43
Fence line area north of Bldg. 8	Burial; soil covered	Closed	^{210}Po (decayed now) plus contaminated labware	20mcI	1962
Fence line area west and under Bldg. 18	Dumping into the swamp and covered	Closed	Variety of lab chemicals and labware contaminated with off-spec reaction products; formaldehyde; $\text{Cu}(\text{CN})_2$ contaminated labware	<250 lbs [<100g $\text{Cu}(\text{CN})_2$]	1940's and early 1950's
Southwest area south of Bldg. 3 and north of Bldg. 2	Dumping; covered	Closed	Variety of chemicals and labware from chemical synthesis laboratory experiments	<100 lbs	1940's and early 1950's
North fence line and possibly northwest of Bldg. 5	Pouring and dumping	Closed	Variety of off-spec reaction products from lab organic synthesis experiments	<100 lbs	1940's thru 1960's
Northeast corner	Burning and burial of C^{14} wastes and contaminated scrap in three holes 4'x4'x5' in the ground; soil covered	Closed	C^{14} wastes and contaminated scrap	~3mcI	1959; 1960 1966
North of Bldg. 20	Several trenches covered with plywood used to conduct tests on the feasibility of transporting aqueous foam through tunnels; the foam was intended to be a transport medium for CS agent; soil covered	Closed	Detergent and foam stabilizers; use of the small quantity of CS agent in the tests is uncertain	<20 lbs	1967
East of Bldg. 20	A pit ~ 30 ft in diameter lined with gravel and limestone and used to neutralize HCl wastes; occasional dumping of lab chemicals and lab wastes from scrapped reactions; cemented	Open; used now to contain wastes during pilot plant upsets	CaCl_2 s smaller undetermined quantities of various lab chemicals and lab wastes from scrapped reactions	<2 tons	Mid 1960's thru mid 1978

AN ACCOUNT OF CHEMICAL SCRAP RECLAMATION SITES

Site	Method of Disposal/Treatment	Status	Waste Components	Quantity	Approximate Period of Activity
CC Supply, Napakoneta, Ohio	A jobber for Chemical Recovery System Elyria, Ohio; Custom Industrial Waste Disposal, Louisville, Kentucky; Inland Chemical, Louisville, Kentucky; and Konolrad Industries, Pandora, Ohio	Closed	Refer to reclaimers listed under Method of Disposal/Treatment	Refer to reclaimers listed under Method of Disposal/Treatment	1975/1977
Chemical Recovery System, Elyria, Ohio	Reclamation of bulk waste solvents for resale; waste product from reclamation incinerated at Robert Ross & Sons, Grafton, Ohio	Closed	Paraffin, olefin, fatty acid, and toluene scrap	<15 tons	1975/1977
Custom Industrial Waste Disposal, Louisville, Kentucky	Reclamation of bulk chemical waste for blending and reuse as fuel	Closed	Toluene, hexane, heptane solvent scrap	<50 tons	1975/1977
Inland Chemical, Louisville, Kentucky	Reclamation of bulk chemical waste for resale	Closed	Spent methylene chloride solvent	<10 tons	1977
Konolrad Industries, Pandora, Ohio	Reclamation of bulk scrap methanol and toluene for use as gasoline antifreeze	Closed	Methanol and toluene scrap	<50 tons	1975/1977
Superior Oil Company, Indianapolis, Indiana	Reclamation of bulk waste solvents	Closed	Xylene, toluene, hexane blend	~20 tons	1981

MONSANTO RESEARCH CORPORATION

Inter-Office Correspondence

From LOCATION : Dayton Laboratory

cc: R. K. Flitcraft
T. Beal
File

DATE : May 9, 1977

SUBJECT : Handling Dayton Laboratory Waste Chemicals

REFERENCE : How We Handle Laboratory Generated Scraps

TO : R. C. Hart

Past Practice. Prior to 1974, waste generated by individual laboratories was combined with scrap solvents from the pilot plant. These wastes were disposed of by one of the following methods. Drum materials were hauled to a private landfill near Delaware, Ohio. Off spec materials from the pilot plant were on occasion disposed of in a landfill at Seymour, Indiana. Several loads of methanol were sent to American Chemical Services near Chicago, for disposal in an incinerator.

We ceased using the Delaware landfill because it was closed by the State of Ohio. The Seymour, Indiana landfill has not been used for disposing of generated scraps for some time. We stopped sending our scrap methanol to American Chemical Service when Pristeen, Inc. of Cincinnati, got into the market of burning waste chemicals and it was cheaper to go to them. We used Pristeen, Inc. for disposal of several truck loads of drum chemical waste. At about the same time Pristeen got into the business, Industrial Waste Disposal (IWD) got into the market as a hauler for Systems Technology who used a fluidized bed incinerator located in Franklin, Ohio. Due to a pricing advantage, we started using IWD and Systech Incinerator. Shortly thereafter, we ceased using Pristeen. For a period of time, we used IWD exclusively. Then Systech got out of the business and IWD was left with only a landfill in Springfield, Ohio. In 1975, we started using CC Supply who is a middleman for several companies. One of these companies is Custom Industrial Waste Disposal, located in Louisville, Kentucky. Custom Industrial markets a burnable fuel for industry with their primary customers being General Electric in Louisville. Our burnable waste was blended with other burnable waste to make a salable product. Another one of CC Supply's sources is Konalrad Industries in Pandora, Ohio. We have shipped only scrap methanol to them which they use to make a gasoline antifreeze. Another source is Chemical Recovery Systems, located near Cleveland. These people reclaim our waste for resale. On two occasions, we have disposed of surplus materials through the St. Louis Industrial Waste Exchange. In these cases, only virgin material were disposed of.

Prior to 1974, Al Wurstner was the principle person involved in the disposal of laboratory generated waste chemicals. The pilot plant generated wastes was handled by Dick Juterbock. In 1974, I started



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Handling Dayton Laboratory Waste Chemicals
May 9, 1977
Page 2

handling the pilot plant waste problems, as well as the disposal of the over-all laboratory generated waste. This continued until 1976, when Tom Beal took over for laboratory generated waste and I continued to handle the pilot plant waste disposal chores.

Current Practice. Currently, responsibility for disposal of scrap and surplus chemicals rest with the Manager of Technical Services, who has delegated these chores to the Safety Department in lure of and Industrial Hygenist which we don't have.

Current sources for disposing of scrap include the following. Liquid materials are sent to Chemical Recovery, Konalrad, or Custom Industrial. Solid wastes which do not contain heavy metals and meet the EPA requirements for landfill disposal are sent to IWD. Wastes containing heavy materials are still a difficult problem and disposal is done on a case by case basis. Except for the very high costs involved, we could use a chemical landfill at Sheffield, Illinois, owned and operated by Nuclear Engineering Company.

Laboratory generated wastes is currently put into 55-gallon drums and is being held on site until sufficient quantities are generated to make reasonable shipment size.

For all outgoing surplus or scrap chemicals we require the vendor to sign a hazardous substance agreement which simply states they can and will handle the material in a responsible manner. In addition, we have on file EPA approval permits for IWD, Nuclear Engineering, and Custom Industrial.

Future Practice. In the future, we expect to be using the same disposal means; however, we will be visiting all sites to which our materials are transported for personal inspection of their ability to handle these chemicals. On Thursday, May 12, a visit to Konalrad has been arranged, so that we can dispose of the methanol currently ready for disposal. Subsequently, a visit will be made to Chemical Recovery Systems and Custom Industrial. A previous visit has already been made to the IWD, Springfield landfill. If problems arise with the current vendor or is deemed that they are unqualified to handle our waste, we will consult the EPA publication relative to chemical wastes and use approved means and source. As you are aware, I have prepared a general laboratory procedure for the proper handling and storage of waste chemicals. Possibly, this should be expedited so that we have an established procedure.

Handling Dayton Laboratory Waste Chemicals
May 9, 1977
Page 3

In summary, we have used a number of sources to dispose of our scrap chemicals. We are currently using sources which we feel are responsible and are able to handle our waste material either for destruction or reclamation. Before we dispose of any more waste, we will conduct on-site inspection of the sources to assure proper handling of our chemical wastes. A new procedure is in the mill for instructing the laboratory personnel on how to handle and dispose of their scrap chemicals.

R. L. Long
P & D Supervisor

ccc

MONSANTO RESEARCH CORPORATION

Inter-Office Correspondence

FROM: LOCATION: Dayton Laboratory/T. D. Beal
G. A. Richardson
cc: R. C. Hart
J. E. Guthrie
DATE: July 22, 1977
SUBJECT: Disposal of MRC Waste Chemicals

TO: ~~E. E. Hardy~~, [] 27 1977

The objective of this report is to outline the method for disposal of continuously generated chemical waste from the Dayton Laboratory. Some of the methods employed in the past can no longer be used. Disposal will be conducted by approved methods at approved disposal sites.

The disposal method is outlined in Figure 1. First, the chemical waste, as received, will be segregated into classes for disposal and held on site, until sufficient quantities are generated to keep disposal costs as economically feasible as possible.

The next step entails location and inspection of an off-site disposal area or facility. This will undoubtedly involve several sites and/or disposal methods. Extremely toxic and hazardous wastes will require a different disposal method than the flammables, which will require a different method than the liquid nonflammables. The nontoxic solids, may require a different disposal method than those above, etc.

The next step is approval of the disposal site and the method that is used. Upon approval of the site, shipping and transportation of the waste to the site will be arranged.

The final step being destruction of the wastes in an approved and safe manner. This will require witnessing of the destruction by MRC personnel.

Periodically all sites will be inspected to assure that the disposal is conducted in a safe and approved manner at all times.

Thomas D. Beal

Thomas D. Beal

George A. Richardson

George A. Richardson

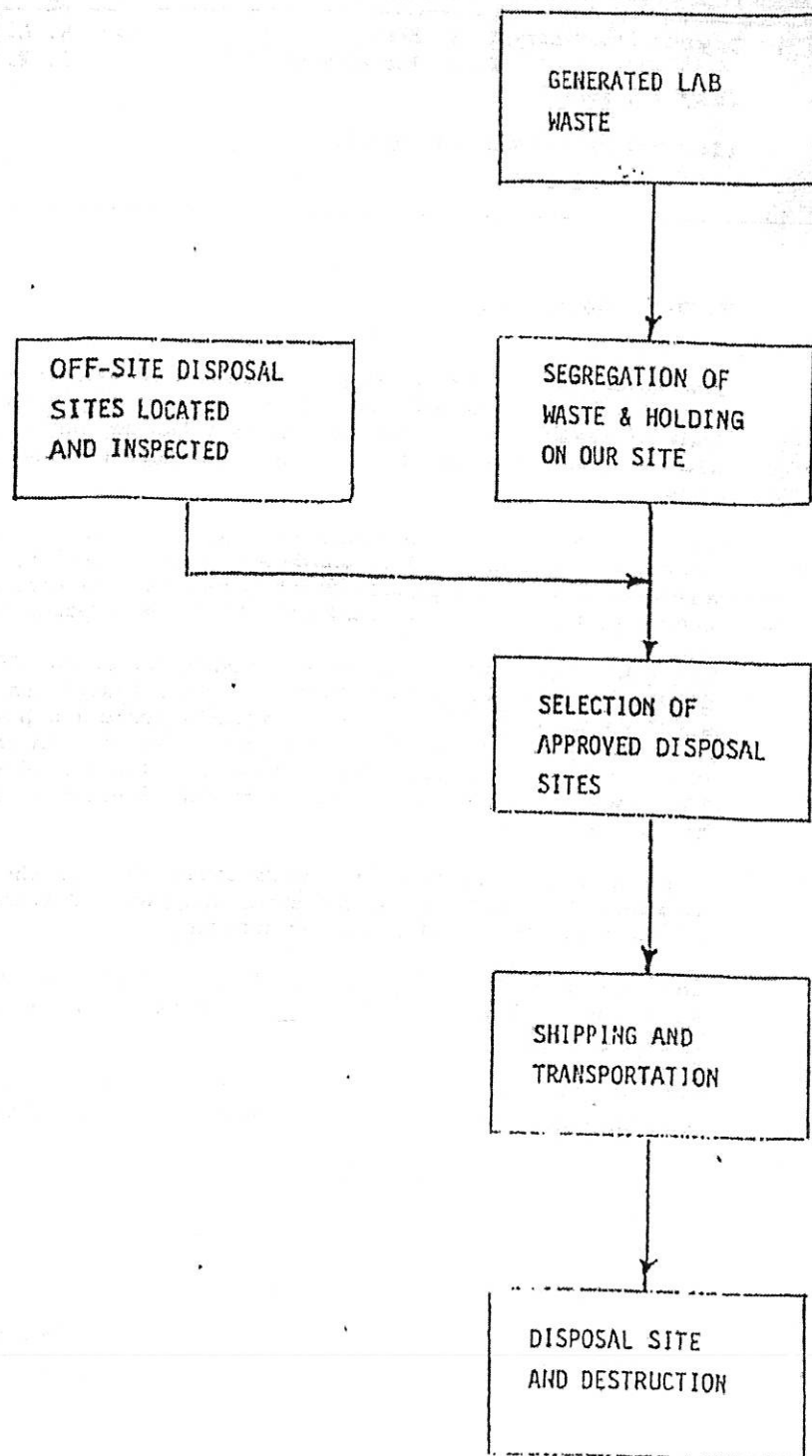
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Attachment

MC-10

MONS01825





MONS01826

Monsanto

FROM (NAME & LOCATION): T. D. Beal-Safety

File

DATE: November 27, 1979

SUBJECT: WASTE DISPOSAL ASSESSMENT

REFERENCE:

TO: H. L. Williams

.. D. J. Dahm
R. Hart
G. A. Richardson

RECEIVED NOV 28 1979

Attached is the method of disposal that MRC is currently using and a list of sites that we currently could and do use.

We have talked to Ohio EPA and asked for an updated list on new sites. We were told that there are no new sites in Ohio. In contacting Clay Hathaway and Ray Liss (St. Louis) we found that they have the same problems and are also looking for disposal sites. We also started contacting each safety department of major industries in the Dayton area to try to compile a list of new sites to review; this will be forthcoming. We have contacted and/or reviewed any leads (410) that we have learned about. When we called the following people inquiring about disposal sites, J. Moore, EPA, Southwest District Ohio, Dr. J. Keith, ITT, Chicago, Ill., and H. Rogers, NIH, Bethesda, Md., we were asked how and where we dispose of our wastes.

We plan to review all current approved disposal contractors, and also to review any new ones that we learn about.

Thomas Beal

T. D. Beal

bh
Att.



MONS01824

E.P.A. Approved and Other Sites

contractor			Type of operation		
1.	Robert Ross and sons		incineration		June 1977
	Dayton, Oh	216-748-2171	chemical land-fill		
2.	Liquid Waste Inc.		incineration		July 1977
	Louisville, Ky				
3.	Pristine		incineration		October 1977
	Reading, Oh		chemical land-fill		
4.	Industrial Waste Disposal		land-fill		March 1977
	Springfield, Oh	502-948-6173			
5.	CER-NEWCO		land-fill		November 1977
	Williamstown, Oh				
6.	Inland Chemical		Reclaimers		July 1977
	Louisville, Ky				
7.	Chemical Recovery		Reclaimers		June 1977
	Clyria, Oh				
8.	Honolua Industries		Reusers		May 1977
	Pandora, Oh				
Liquid Disposal of Michigan					
Smith Landfill					
Hepnerville, Ky					
Jones Chemical					
Beratgrove, Oh					



MONS01827

Monsanto

R. J. Janowiecki - EASC - Dayton Lab - 1250

July 22, 1980

D. J. Dahm
K. A. Rabbitt
D. G. Glasgow

WASTE DISPOSAL CONTRACTORS

TO : M. F. Weishaar, G4WA

At the recent ECC meeting, you requested information on waste disposal contractors used by various Monsanto sites for inclusion in a corporate inventory of such contractors.

MRC's Dayton Laboratory has used CECOS, in Cincinnati, Ohio, for the disposal of solid waste in a landfill. We also have used Rollins Environmental Services for the disposal of liquids and some solids. As you know, Monsanto has a corporate contract with CECOS and is preparing a contract with Rollins.

In the future, we plan to dispose of some flammable liquid waste at Robert Ross & Sons, Inc., in Cleveland, Ohio. On May 27, 1980, EASC personnel inspected the site, which has an Ohio EPA permit for incineration, and found it to be suitable for our wastes.

Earlier, we disposed of liquid waste, primarily spent solvents, at Pristine, Inc., Liquid Waste Management Services, located in Reading, Ohio. This facility, which has a forced-draft liquid waste incinerator, was shut down by the Ohio EPA and State Attorney General on June 11 for poor housekeeping and poor facility management. The owner/operator is presently making changes specified in a consent agreement. The facility is required to provide data regularly to the City of Reading; county personnel periodically inspect the site. John Salter, general manager of the facility, visited our lab recently to explain the status of his compliance with the various requirements and to solicit our business. Our future use of this facility is presently in doubt and will depend on the availability of other suitable contractors.

I also reviewed the inventory printout form that you distributed at the ECC meeting. I think that the format and information displayed on the proposed form would be suitable for our needs.

Rich

R. J. Janowiecki

RJJ:bkr



MONS01828

MONSANTO RESEARCH CORPORATION

Inter-Office Correspondence

From : Safety and Loss Prevention

Location :

Date : October 24, 1979 *Person*

Subject : Waste Management Monthly Report
Dated 9/28/79 by R. K. Blauvelt

Reference:

cc: R. K. Blauvelt

J. R. McClain

M. J. Mullins

1 NOV 1979

TO : Mr. R. K. Flitcraft

With regard to your question concerning Mound Facility's activities at the local landfill, let me apprise you of the latest developments. The distant landfill referred to in the subject monthly report is in the northern Dayton area. The site is operated by SCA Services, Inc., is approved by the Ohio EPA and has all necessary local permits and licenses. It was inspected by Mound personnel prior to transport of Mound waste to the site. Documentation of these visits is available. A contract was established covering the period August 1, 1979 through September 30, 1979 when IWD notified Mound personnel that their Cardington Road landfill operation would cease operations on July 31, 1979.

Near the end of this contract period a new landfill, just a few miles distant, was able to start operation, the Pinnacle Road Site. This landfill has been ready to receive waste for some time, but was tied up in legal actions. It is licensed by Montgomery County and receives daily scrutiny from the County staff. It is a fenced in area, using accepted landfill techniques and is approved by the State EPA. Mound personnel have visited the site for inspection. Mound is now using this landfill with discretion, since the operation is still receiving some publicity. The possibility of further legal action by nearby citizens remains. I have enclosed a copy of a recent news ad taken out by the site operator.

I will keep you advised of any further developments which may impact on Mound's current operations.

D. A. Edling
D. A. Edling

DAE:ar
Enc.



MONSANTO RESEARCH CORPORATION

Inter-Office Correspondence

FROM LOCATION Corporate Office, Dayton

cc 1

DATE October 30, 1979

SUBJECT Waste Handling Procedures

REFERENCE

TO Mr. H. L. Williams
Mr. J. R. McClain

I would like to have a current status report from each site indicating where we are sending wastes to now, what wastes are being sent, an approximation of the volumes on some timed basis, as well as an indication of the inspections that have been made at these sites over the past six months.

I would like to have the report on this subject no later than the end of November.

After receiving this, I may well want to have a briefing to provide more details. As you know, it is imperative that we stay on top of this situation at all times. Please advise of any questions.

12/3 - mail report received - location 3

RKF
Richard K. Filcraft

RKF:glm
Enclosure

MC-10



MONS01830

Monsanto

FROM
(NAME-LOCATION-PHONE)

S. A. Heininger - G5EA

DATE

July 9, 1979

SUBJECT

REFERENCE

TO

~~B.K. [unclear] 1250~~
D.J. Orrick - R4B
C.W. Roos - R1B
B.S. Wildi - Q3F

PM
4/4/79
Review of current
status - meeting
with [unclear]
Verbal briefing
of [unclear]

Attached is a copy of Monsanto's new Hazardous Waste Management Policy as submitted by Mr. Throdahl to the Corporate Administrative Committee. As Monte's letter shows, this was approved by the Environmental Policy Committee in June.

Please be aware of it, and ensure that all facilities under your control adhere to the principles outlined in this document.

SAH
S. A. Heininger

SAH:jd

Att.

RECEIVED
JUL 14 1979
MONSANTO - DAYTON
PATENT DEPT.



MONS01831

Monsanto

CH
NAME-LOCATION-PHONE: M. C. Throdahl - DLD

TE : June 28, 1979

cc.

SUBJECT : Monsanto Hazardous Waste Management Policy

REFERENCE :

TO : Corporate Administrative Committee

Hazardous waste management is fast becoming as critical and important an issue as the Toxic Substances Act. We thought all CAC members would be interested in the following policy drafted by Mr. Jessee with help from Directors of Environmental Operations, and, finally, approved by the Environmental Policy Committee.

The rationale for this was directed toward the following:

- Administrative concerns as the legislative and regulatory processes are evolving.
- Proactive mode guidance to managers making environmental decisions.
- A corporate-wide base upon which to build sound strategies, practices, and technical programs.

Recommended policy was presented to the Environmental Policy Committee on June 18, 1979. Revisions and additions were made and the policy statements were accepted by the EPC. Attached are copies of the principles for establishing this policy and the policy statements. It is our expectation, that through implementation of this policy, hazardous waste management will be brought into sharper focus and executed in the most responsible manner.

MCT

M. C. Throdahl

MCT/mw

Attachments

MONS01832

MONSANTO

HAZARDOUS WASTE MANAGEMENT POLICY

To support our commitment to protect the environment at each Monsanto location and provide for the health and safety of all who come in contact with our products, we will adhere to the following policies with regard to hazardous wastes.

The following environmental policies have been adopted by the Environmental Policy Committee. The Committee retains the right to approve any action which might otherwise be at variance with these policies.

HAZARDOUS WASTE MANAGEMENT

The policy of Monsanto with respect to hazardous waste management shall be as follows:

- To insure that the Corporation is postured to protect its manufacturing capability with appropriate treatment, storage, and disposal facilities for wastes generated from its operations.
- To retain ownership of all company land known to contain wastes of such composition and quantity which have the potential for injury to health or the environment except where otherwise approved by the Environmental Policy Committee.
- To terminate the use of transport services or treatment, storage, or disposal facilities where health protection or environmental compliance cannot be reasonably assured.
- When appropriate, provide aid, counsel, and assistance to outside waste disposal operators who are disposing of waste materials in an environmentally responsible manner.

SELECTION AND OPERATION OF TOTALLY-OWNED FACILITIES

The policy of Monsanto with respect to its totally-owned facilities for the treatment, storage, or disposal of hazardous wastes generated from its operations shall be as follows:

- In selecting waste disposal sites and the methods of treatment, storage and disposal employed, protection of public health, protection of the environment, and permanent environmental acceptability shall be considered.
- Sites shall be selected to serve the Corporation's needs and may serve more than one manufacturing location.
- Treatment, storage, or disposal methods employed at each facility shall be selected to serve the Corporation's needs and may serve more than one manufacturing location.

PRESERVATION OF HAZARDOUS WASTE FACILITIES

The policy of Monsanto with respect to the preservation of its assets for hazardous waste treatment, storage, and disposal shall be as follow

PRINCIPLES FOR ESTABLISHING MONSANTO POLICY
FOR THE MANAGEMENT OF
HAZARDOUS WASTES GENERATED FROM ITS OPERATIONS

1. The policy should be compatible with both the Long Range Corporate Objectives and Policy Guidelines and the Social Responsibility Policy Statements yet provide some means for review and approval of exceptions at an appropriately high level of authority.
2. The policy should recognize the need to protect the viability of the Corporation's operations with appropriate options for treatment, storage, or disposal of wastes.
3. The policy should recognize that externalities may force the Corporation to move toward self-sufficiency for treatment, storage, and disposal of hazardous wastes.
4. The policy should recognize need for rigorous environmental assessment prior to the sale of Corporate-owned lands that may contain or be contaminated with wastes that have the potential for harm to human health or the environment.
5. The policy should recognize that the management of hazardous wastes is a corporate-wide issue of such economic magnitude as to warrant careful scrutiny of the growing collective investment, operating costs, and methods of treatment, storage, and disposal to the extent that future decisions and actions may give precedence to regional over local needs.
6. The policy should recognize the need to prolong the useful life of the facilities and give support to the implementation of research and engineering programs that would improve both the state of the art and the operative optimization of hazardous waste management.
7. The policy should recognize the need to establish a mechanism for dealing with the accidental sudden or non-sudden release of hazardous waste to the environment.
8. The policy should be so stated as not to increase the Corporation's legal liability.
9. The explicit and multi-faceted implications of hazardous waste management with respect to the Corporation's best long-term interest would imply that a single policy for hazardous waste management would not adequately address the issue at this stage of evolution. Hence, a set of policies is in order at this time for the sake of clarity as to our best knowledge of the commitments and resources involved.

G.L.J.
6/28/79

MONS01834

- To seek and implement feasible ways to reduce the hazardous wastes generated from its operations.
- To seek and implement feasible ways to convert hazardous wastes to usable materials.

RECORDING AND CONTROLS

The policy of Monsanto with respect to its social responsibility in the treatment, storage and disposal of hazardous wastes generated from its operations shall be as follows:

- To build a knowledgeable record of the disposition of hazardous wastes.
- To provide a management plan for their control.

COMMERCIALIZATION

The policy of Monsanto with respect to commercialization of hazardous waste treatment, storage and disposal shall be as follows:

- The use of company facilities to treat, store, or dispose of hazardous wastes of others is not desirable except in special circumstances. Such circumstances for same must be reviewed with the Senior Vice President, EPS, and approved by the Environmental Policy Committee.
- Joint ventures for the treatment, storage, or disposal of hazardous wastes must be reviewed with the Senior Vice President, EPS, and approved by the Environmental Policy Committee.

NOTE: By hazardous wastes we mean solid wastes, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed.

C.L.J.
6/28/79

MONS01835

DATE: 10/30/79

CALLER: Mort Mullins

TIME: 9:55 am.

PLEASE CALL: No. 865-3577

SUBJECT: Your interest regarding
situation on commercial
landfills.

MESSAGE: Mound has rec'd ~~from~~ instructions
from a/c to no longer use commercial
landfills for radioactive wastes. Mound
is going to ^{use} Savannah River for LSA wastes
- Idaho Falls ^{high level} for TRU wastes
- Nevada - with tritium
wastes.

Wend sent out

If you have any questions, please call.

PLAINTIFF'S
EXHIBIT
12 4/11/14
Bel Mac

MONS01836